Family Physical Activity and Health in Everton: The People's Family Project

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Abstract

The objective of this thesis was to examine how psychological theories and sociological concepts can be used to better understand health behaviour change amongst families living in Everton, north-west England. In doing so, three research questions are addressed: (1) What is the social composition and health status of Everton families and how can these insights be used to inform the development of an intervention which aims to generate positive behaviour change within these families?; (2) How can sociological theories and psychological concepts be used to explain processes of behaviour change amongst families involved in The People's Family Project?; and (3) How effective is the community-based People's Family Project in generating positive behaviour change and what are the core mechanisms and processes which help account for any behaviour change? A three-phase approach to the research was adopted in this mixed-methods study undertaken with parents and children and explored using an ecological framework. A process evaluation approach, which drew upon the key sociological theories of figurations, networks of interdependency, habitus, power and capital alongside the psychological constructs of behaviour change, namely self-efficacy and motivation was also used.

Phase 1 explored the social demographics and health behaviours of families living in Everton (N=55) to provide the basis of a holistic family-based health intervention (the PFP). Phase 2 included the deployment of pre-intervention measures, intervention delivery, and mid- and immediate-post-intervention outcomes (N=14 families), and Phase 3 included repeat measurements at 6- and 12-months post-intervention (N=7). Results demonstrated that the intervention had little impact on smoking and alcohol behaviours but did have a significant and long-term impact on parental physical activity (PA), and a significant impact on mental well-being and dietary quality, however these changes were not maintained statistically at follow-up. Qualitative analysis suggested the intervention led to various physical, social and psychological benefits for families, which were explained using the programme theory developed as part of the process evaluation.

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Chapter 1 : Introduction

The global problem of inequality

Inequality is one of the key challenges of living in the 21st Century and affecting all countries; particularly in relation to health and well-being (De Maio, 2014). In the United Kingdom (UK), income and wealth inequality has been growing rapidly over the last 30 years (The Equality Trust, 2014). With the richest 10% of the population now accruing a net income almost 10 times higher than the remaining 90% (Wilkinson & Pickett, 2010). Further, this inequality is unequally distributed geographically and by health outcomes. For example, in 2015, 45.2% of adults in Islington, London participated in 30 minutes of moderate intensity sport per week, compared to 37.1% of adults participating in Liverpool, Merseyside (Sport England, 2015).

In this regard research has revealed a distinct link between income, position/social class and health with those from lower socio-economic groups reporting worse health outcomes than their high socio-economic counterparts (Prag, Mills & Wittek, 2013). This social gradient in health is particularly true for deprivation and life expectancy where a difference of up to 20 years is being observed in some parts of England e.g. within the London borough of Westminster (Marmot, 2015). Wilkinson and Pickett (2010) suggest that this gradient is a result of status anxiety among other things, generated by status comparison where 'the further up the social ladder you are, the easier it becomes to feel a sense of pride, dignity and self-confidence' (Wilkinson & Pickett, 2010:40). Delhey and Dragolov (2014) further suggest that people are less trusting in nations with larger income disparities.

The health of families as a cause for concern

The cumulative effect of growing relative income and wealth inequality, alongside the diminishing role of the welfare state, has brought about a number of challenges for both individuals and families, particularly in relation

to health and well-being. Of particular importance to this thesis is how families from low socio-economic backgrounds are affected by these challenges. It has been recognised that millions of pounds are spent daily treating individuals (many of whom are from lower socio-economic groups) who suffer from a range of health problems and conditions, and a large proportion of the National Health Service's (NHS) resources are devoted to supporting those in poor health (Woods 2013). While some of these problems may be hereditary or unavoidable, others occur as a result of lifestyles, rather than being passed from person to person, that is to say they are non-communicable diseases (NCDs) (World Health Organisation [WHO], 2013).

It is widely acknowledged that the promotion of physical activity (PA) is a vital pre-requisite for improving physical, psychological and social health, but many people do not currently undertake the required levels of PA and exercise to benefit health. It is estimated that physical inactivity accounts for over 600,000 deaths in the WHO European Region, with increases in obesity-related illnesses now being observed amongst children and young people (WHO, 2004). These issues are arguably accentuated by many of the cuts to disability, unemployment and housing benefits, and social care budgets introduced by Government, alongside clinical and nursing shortages. Recent research suggests that around one-in-two women and a third of men living in England are not meeting the recommended guidelines for PA, to the detriment of their health (Health and Social Care Information Centre, 2013). Results from the National Millennium Cohort Study (Griffiths, Cortina-Borja, Pouliou, et al., 2013) also highlighted that 51% of primary school age children met the recommended Chief Medical Officers (CMO) guidelines with girls engaging in less daily PA than boys (38% and 63%, respectively). Results also demonstrated social and demographic variation related to PA and sedentary behaviours.

Smoking is the greatest cause of preventable deaths across England, responsible for around 80,000 deaths during 2011 and, although smoking rates are declining there are still over 8 million smokers in the UK, disproportionately drawn from low socio-economic groups which equates to

around 18.7% of the population (Department of Health, 2013). In addition, alcohol abuse is a major source of morbidity and premature death in the UK, with the annual cost to the NHS estimated at £2.7 billion (Department of Health, 2008). These increases in unhealthy behaviours leading to the development and incidence of NCDs are also arguably often related to or used as a form of management of mental illness, as the extent of the prevalence of mental illness, in the UK and elsewhere has also increased. In the UK at least one in four people will experience a mental health problem at some point each year and half of adult mental illnesses are first experienced by age 14 (HM Government, 2011; Whiteford, Dedenhardt, Rehm et al., 2013). The costs of mental health problems to the English economy were estimated at around £105 billion, with treatment costs expected to double in the next two decades (HM Government, 2011).

Targeting individual behaviour change

The dominant response to these health problems, in the UK and England in particular, has been to focus on individual behaviour change, through the implementation of (often clinical) interventions. These typically seek to prevent or treat illnesses of individuals (March, Torres, Ramos et al. 2015), through the modification of lifestyle factors such as smoking (Brambra, Gibson, Sowden et al., 2010). However, this type of approach has historically failed to significantly reduce the prevalence and harms of NCDs. Pickett and Wilkinson (2015) propose that for real improvements in health and well-being to be attained across the UK, there is a need to tackle the widening inequalities between groups across all of society. Thus, unless interventions address the structural inequalities and social determinants of health, which seek to reduce inequalities between groups and across society, they are bound to be met with limited success (Brambra et al., 2010).

One way to overcome the limits of current interventions and effectively challenge the inequalities which disproportionately affect those from lower socio-economic groups is through community-based interventions. In particular, this type of approach may help engage those who are reluctant to

participate in health services and/or intervention programmes, yet are arguably more at risk of developing lifestyle diseases (e.g. type 2 diabetes) and have been labelled as 'hard-to-reach' (Flanagan & Handcock, 2010). It has also been suggested that more holistic and family-orientated intervention approaches may be more effective in promoting and changing health behaviours long-term (Brown, Schiff & Van Sluijs, 2015). Sport organisations, and particularly football clubs have also been presented as ideal organisations for delivering health messages and community-based intervention given their presumed impact on engaging communities. However, for reasons explained in the next chapter, despite the rapid growth of Football in the Community (FitC) schemes designed and delivered since the mid-1970s, many of them have been criticised for their lack of rigorous evaluation and tendency to focus on immediate outcomes rather than long-term and sustainable gains (Coalter, 2007).

Thesis objective and research questions

The aforementioned concern about the links between inequalities and health and health behaviours such as PA provides the context within which this thesis was undertaken. The objective of the thesis was to examine whether psychological constructs of behaviour change can be incorporated with key sociological theories to better understand health behaviour change amongst families living in the Everton ward of Liverpool, Merseyside. To address this objective, three main research questions are explored:

1) What is the social composition and health status of Everton families and how can these insights be used to inform the development of an intervention which aims to generate positive behaviour change within these families?

2) How can sociological theories and psychological concepts be used to explain processes of behaviour change amongst families involved in The People's Family Project?

3) How effective is the community-based People's Family Project in generating positive behaviour change and what are the core mechanisms and processes which help account for any behaviour change?

Thesis structure

To help answer these research questions Chapter 2 provides a critical review of the existing literature which examines: increasing social inequality within the UK, policies relating to families and health in communities and the context within which these policies are enacted, a review of a variety of previous interventions intended to promote health and a consideration of family sport socialisation. Chapter 3 then outlines a number of key sociological theories and psychological concepts which were deployed in the study using an ecological framework. Chapter 4 explains how the key concepts and theories were used to inform the selected research approaches used to generate data in the study.

The next three chapters (chapters 5, 6 and 7) outline the purpose of each research phase, the methods used and data generated. Three (key) case study participants are then outlined in Chapter 8 related to physical, psychological and social health. The sociological and psychological significance of the findings are then discussed in Chapter 9 which provides the beginnings of an explanation about the impact of the PFP on the health behaviours and lives of the families studied. In doing so, the chapter examines the process of designing, delivering and evaluating the intervention, alongside differences in the health behaviours of families prior to (pre), immediately following (post) and 12 months after participation in the 12-week PFP. The final section then concludes the thesis by reflecting upon the theoretical and empirical contribution of the study to the existing body of knowledge and reflects upon the lessons learned from the research before considering the limitations of the study and areas for future research.

Notes

[1] In this thesis, 'PA' will be used as a catch-all term intended to incorporate all sport, exercise and PA (including that relating to active travel, lifestyle or household duties). PA can be defined as 'any bodily movement produced by skeletal muscles that results in energy expenditure' (Casperson, Powell & Cristenson, 1986:126).

[2] For the purpose of this thesis the term 'mental well-being' is used when referring to the results of the Warwick Edinburgh Mental Well-Being Scale. It is noted, however that mental well-being is a term which 'defines your mental state – how you are feeling and how well you can cope with day-to-day life (Mind, 2013). While mental illness is a term 'used to encompass all mental disorders – these are illnesses that affect mood, emotions, and the ability to function effectively and appropriately' (NHS Health Scotland, 2015:3)

Chapter 2 : Review of literature

Introduction

The Introduction to this thesis outlined the problem of inequality within society and family health as a cause for concern. The purpose of this chapter is to critically review the literature on the impact of this inequality on the health of individuals and families. It also examines the evidence-base for community-based health interventions (conducted with both adults and families) in generating behavioural change amongst participants.

Increasing social inequality

Income and wealth

Globally, relative income and wealth inequality have been identified as one of the main risks to economic and political security (Dorling, 2015; The World Economic Society, 2014). However, in modern societies, even though relative levels of affluence are increasing, longstanding problems such as poverty are also increasing as a small proportion of privileged individuals continue to flourish (Savage, 2015). This trend is also apparent in the UK, where the distribution of income is extremely unequal. Using the Gini coefficient, Wilkinson and Pickett (2010) demonstrated that the UK has the second highest level of income inequality between households out of the 18 nations studied. The richest 10% of the population also has a net income of almost 10 times higher than the remaining 90% of the population, while in relation to wealth, the richest 10% of all households in the UK hold 44% of all wealth, with the poorest 50% owning just 9.5% (Wilkinson & Pickett, 2010).

This wealth is also unequally distributed geographically across the UK, with a stark North-South divide. For example, the average household in South-East England possess around 183% more wealth than the average household in Scotland (ONS, 2014). The distribution of wealth also varies between regions

as well as between them, with London standing out as having polarised wealth distribution, for example almost a quarter of lower super output areas (LSOAs) in Tower Hamlets are among the most deprived 10% in England, while Barking and Dagenham has just two LSOAs ranked below the median across England (Department for Communities and Local Government [DCLG], 2015). It is the top 1% of earners in the UK however, who have incomes which are substantially higher than those in the top 10% (ONS, 2015), and this small minority has been steadily moving away from the rest of the population over the last 15 years. This is important since not only do richer people tend to be both happier and healthier than poorer people but in countries such as the UK, the differences in how people perceive themselves and their economic and social ranking, which are exacerbated by widening relative inequality appears more important for health than absolute differences in income and wealth inequalities (Wilkinson & Pickett, 2010). Therefore it can be suggested that this increasing social polarisation has exacerbated the social gradients in health both within the UK and worldwide.

Social class and inequality

When considering social inequality, social theorists have tended to focus on class or status and particularly social inclusion and exclusion (Veal, 2015). While income (or economic capital) contributes substantially to inequality and social class divisions, there are also additional social dynamics which impact on social status, namely cultural tastes and social networks. Savage (2015:180) suggests we can understand social class as being a 'crystallisation of different kinds of capital through examining the interplay between economic, social and cultural capital'. Traditionally, three main classes were said to exist in Britain: The upper class, the middle class, and the lower or working class. However, the distinctions between classes (particularly working and middle) have not universally been accepted, and even when class divisions were at their most prominent in the 1960s, around half of the population did not see themselves as belonging to a particular social class (Heath, Martin & Elgenius, 2007). In modern day Britain, it can be argued that while class is still important, the distinctions between classes are even more blurred (Roberts, 2008).

In 2013, a BBC survey involving 160,000 British citizens was conducted to explore class divisions, using a number of questions relating to economic, cultural and social capital. Results of the survey indicated the presence of seven social classes, ranging from the elite to the precariat or precarious proletariat. Savage, Devine and Cunningham (2013) highlight how this new model of class offers a powerful way of demonstrating the persistent, yet changing, social class divisions in contemporary Britain, the polarisation of social inequality, and the fragmentation of the traditional middle and working classes into more segmented forms. It has been further suggested that social class differences are no longer as significant as the inequalities between individuals within the same social groups since the growth in equality which has taken place within the last 50 years is largely attributable to gaps within social groups rather than between them (Hills, 2010).

Social class and health

The impact of social conditions on health has been extensively studied, with findings consistently demonstrating that individuals from lower socio-economic groups exhibit poorer health than those higher up the social ladder, while the extent to which one is socially integrated within society also impacts on health (Blaxter, 2010; Prag et al., 2013; Nettleton, 2013). The Whitehall (part II) study into the health of male and female civil servants conducted by Marmot, Smith, Stansfeld, et al. (1991) used a combination of self-perceived (self-report questionnaire) and objective health measures (health screening examination) to assess the impact of employment grade on health. Results demonstrated there was an inverse association between employment grade and prevalence of angina, electrocardiogram evidence of ischaemia, and symptoms of chronic bronchitis. Results also highlighted that self-perceived health status and symptoms were worse in individuals in lower paid jobs alongside an increase prevalence of risky health behaviours related to smoking, diet and exercise (Marmot et al., 1991).

There are two main hypothesis regarding the link between income (or position within a society) and health: (i) the circumstances in which people live is linked

to the chances of health issues occurring, and (ii) people end up nearer the bottom of society because they are more prone to social problems e.g. with their health. In line with these suggestions, the Commission on Social Determinants of Health concluded that inequalities in power, money and resources lead to social inequalities in health. Research from geography, epidemiology, and public health has shown that where people live significantly affects their health outcomes (Tunstall, Shaw & Dorling, 2004). An exploration of neighbourhood mortality patterns across England and Wales (Green, Vickers & Dorling, 2014) demonstrates the existence of wide geographical inequalities in mortality (as a result of inequalities in health), with life expectancy values varying by 9.1 years for males and 7.9 years for females, dependent on geographical location and linked to household poverty. Wilkinson and Pickett (2010) have also noted the prevalence of ill-health is higher in more unequal countries such as the UK compared to more equal countries like Japan and Sweden. In addition, more unequal states in the US experience in higher levels of mortality, even when counties or individuals had the same level of income. Wilkinson (1996) also suggests that societies which have high levels of income and health inequalities are more likely to have higher levels of crime and experience a decline in community trust.

A number of proposed explanations of the mechanisms that explain the relationship between inequality and levels of community trust have been proposed. Firstly, the material explanation which suggests that societies with higher levels of inequality have fewer collective resources to invest in the educational, medical and cultural infrastructure which is detrimental to health (Lynch, Davey Smith, Hillemeier et al., 2004). An alternative psycho-social explanation is that the comparison of social status and subsequent competition for status and prestige, which leads to more negative appraisals for the majority of people, leads to social evaluation anxiety/stress, which triggers additional behaviours e.g. smoking that have a detrimental effect on health (Wilkinson & Pickett, 2010). It has been suggested that socio-economic status and an absence of the necessary resources to deal with stress is a key mechanism for stress-related disease (McEwen, 1998; Chiang, Bower, Almedia et al., 2015). Furthermore, parental perceived stress and social status

has been shown to be linked to children's stress physiology and executive functioning (Urstache, Noble & Blair, 2015).

In contrast, Prag et al. (2013) found that while income inequality does impact on self-rated health and psychological well-being, social comparison related to income did not moderate the effects of relative income or income inequality on health. They argued that something other than status differentiation and social comparison links socio-economic status, income inequality and health and more research is needed in order to clarify the causal pathways and mechanisms which are responsible for these links. Critics of Wilkinson and Pickett's research similarly note that the correlational analysis conducted in *The Spirit Level* was not sufficient to establish a causal relationship between health and inequality. However, a more recent causal review of income inequality and health as conducted by (Wilkinson & Pickett, 2015) did find strong evidence of a causal relationship between inequality and health. With the exception of suicide, which appears to be as common in more equal societies. Wilkinson and Pickett (2015) further note that income inequalities appear to strengthen the many causal pathways through which social class impacts on individuals throughout their lives.

Research has also consistently demonstrated the impact of educational attainment on health behaviours, particularly amongst women (Cundiff, Uchino, Smith et al., 2015). Children from lower socio-economic groups with parents who possess lower levels of educational attainment are also more likely to have various chronic health problems and worse overall health than children from higher socio-economic groups. It has been proposed that more educated parents may be better informed about the availability and value of health care and also have better health behaviours themselves which can positively impact on child health behaviours (Case & Paxson, 2002). In relation to diet, those with lower levels of education (who are generally from lower socio-economic backgrounds) place more emphasis on price and less emphasis on health in relation to the selection and purchasing of food compared to their more educated or affluent counterparts (Konttinen, Sarlio-Lahteenkorva, Silventoinen et al., 2012). Literature also demonstrates a clear

link between socio-economic status, particularly income and employment status, and smoking prevalence, with those from lower socio-economic backgrounds being more likely to smoke than those from higher socio-economic groups (Hiscock, Judge & Bauld, 2010). There also is evidence for the existence of an inverse relationship between the consumption of alcohol and socio-economic status. (Lakshman, McConville, How et al., 2010).

In 2012, 67% of men and 55% of women in England met the UK PA guidelines (British Heart Foundation, 2015). Higher education is also associated with the likelihood of engaging in PA. Bennett, Emmison and Frow (1999:116) state that 'the care of the body is both more intensive and extensive as one's educational level rises'. In support of this claim, a review article by Bauman, Reis, Sallis et al. (2012) confirmed that level of education was a correlate of PA. Warde (2006) notes that while 73% of those with a higher education degree participate in some form of sport, this decreases markedly for those with A-level qualifications (66%), GCSEs (59%) and especially for those with no qualifications (32%). It has been proposed that this is due to not only an increased knowledge of the benefits of PA and potential consequences of inactivity, leading to an increased motivation to exercise, but also due to the increased ability to access the resources required to undertake physical activity (Farrell, Hollingsworth, Propper et al., 2014).

Warde (2006) further suggests that an appreciation of the value of PA and exercise is entertained most seriously by those with higher levels of education, and is an activity which is primarily conducted for the purpose of fitness and body discipline, particularly for females. As suggested by Bourdieu (1984), individuals with higher levels of education generally also possess and have access to higher levels of cultural and social capital and as a result of their social circumstances, display parallel preferences across other domains such as music, cinema and art too. Within the UK, and other Western countries, more young people than ever before are pursuing further and higher education. Green, Thurston Vaage and Roberts (2015), highlight that, in Norway, a similar trend of more young people attending college and university courses was associated with higher levels of sports participation. However, in

the UK, a rise in uptake of further-higher education has not yielded the same positive impact on sports participation levels, which has been linked to a fundamental lack of intergenerational social mobility and lack of predispositions within many social groups or classes to take part in sport and PA within the UK.

Social class, health and the responsibilisation of families

Regardless of the significance of inequality for health and the prevalence of other social problems, poor parenting and family life has been presented as a key explanation for a range of society's ills, ranging from anti-social behaviour and the rise of youth mental health problems (Hartas, 2014). Parents are increasingly left to tackle these big societal problems and alleviate the impact of them on their children's life chances. Despite these rather simplistic assumptions about the role of family and parents in children's lives, it has been acknowledged that what young people go on to achieve in adulthood is determined through their early life experiences and investments in physical, and other forms of capital which they accumulate and invest in through home and school life (Department for Education [DfE], 2012).

In relation to health, research has demonstrated that children from lower socio-economic backgrounds fall in to poorer health as they age, and therefore childhood health may be contributing to the gradient of health present in adulthood (Alder, Boyce, Chesney et al., 1994). As Case, Fertig and Paxson (2005) have noted, health may also be a mechanism by which economic status is transmitted inter-generationally, as children born into poorer families experience worse childhood health and lower investments in human capital which leads to worse health in adulthood and passed down to the generations. However, not all adults who originate from low socio-economic groups in their childhood go on to become classified as high-risk in terms of their health status in adulthood. Researchers have suggested that positive family relationships, specifically maternal warmth and sensitivity, can act as a protective factor against the potentially detrimental influence of low socio-economic status in childhood on long-term health (Chan, Miller & Chen, 2016). In addition,

children who are not adequately provided with the necessary experiences and opportunities to invest in physical and other forms of cultural capital are more likely to experience conditions such as obesity over their life course (Stirrup, Duncombe & Sandford, 2015).

One response to the neoliberal concern that health is an entity to be achieved and continually performed by individuals, is the introduction of policy intended to focus on families and stimulate individual behaviour change in relation to health by nudging individuals and families towards desirable behaviours. This practice is also known as 'responsibilisation' (Thaler & Suntein, 2008), a process of 'proactively reaching out to citizens who are at risk of showing undesirable behaviour' (Peeters, 2013:588) or directing people towards desirable behaviours. This process is an extension of what Crawford (1980) called the ideology of 'healthism' in which health is presented as being the responsibility and choice of individuals rather than being socially structured. In doing so, this perspective detracts attention from wider social problems (e.g. poverty or social class) which are associated with health inequalities (Annandale, 2014). However, despite the limitations of this approach, the next section indicates that responsibilisation and the ideology of healthism remains the dominant ideological assumptions on which much existing policy is based.

Family PA and health

Since the 1980s, there has been an increasing policy focus on encouraging PA and health improvement amongst families nationally and internationally. In doing so, there has been a disproportionate emphasis on encouraging parents to be physically active for health and to encourage their offspring in the process. Other research has indicated that becoming a parent may, in some cases help to improve parental health, particularly related to smoking and alcohol consumption (Bachman, Wadsworth, O'Malley, 1997; Staff, Schulenberg, Maslowsky, 2011) and mental well-being (Nomaguchi & Milkie, 2003), or that children may able to encourage parents to engage in PA (Such, 2015). This section reviews some of the research which explores family-based PA and health, especially the process of family socialisation. Before doing so,

however it should be noted that family structure in the UK has changed significantly over the last 40 years.

According to the Office for National Statistics (2010), a family is formed when people have children, get married or form partnerships. The UK has one of the highest levels of female employment amongst the major European Union countries, with 68% of all mothers working (25% in full-time employment). This is in comparison to just 43% of mothers working in 1973 (Asmussen & Weizel, 2010). This has led to more nuclear families sharing childcare duties and more children being enrolled into nursery/pre-school establishments or other family members such as grandparents becoming more actively involved in childcare. According to a recent report (Office for National Statistics [ONS], 2014), the number of households with dependent children headed by a married or cohabiting couple has fallen, (from 65.4% in 2001 to 60.4% in 2010) while the proportion of one-parent families has increased (from 23.6% to 25.5%).

There are now many studies that have examined how different types of families and family structures impact on PA and health, but this research is still in its infancy and at present no consensus has been reached (Gustafson & Rhodes, 2006). Nevertheless, a number of researchers have suggested that engagement in PA and leisure activities is 'context-dependent' (Wright, Macdonald & Groom 2003:19) in that it is closely related to broader notions of socioeconomic status and divisions (Burton, Turrell & Oldenburg, 2003). Numerous researchers have also focused on socio-economic status or class as a determinant of child sport socialisation. Zach and Netz (2007) investigated PA patterns across three generations of family members, grandparents, parents and children (11-13-years-old) and found a strong connection between the PA levels of the mother and the child, with no connection between other family members. This, however, could have been due to the culture of families included in the study, the majority of whom were of Israeli decent. Indeed, the researchers acknowledge that 'Israeli children stay closer to their mothers than 'any other member of the family' (Zach & Netz, 2007:249).

In the UK context, the findings of Dagkas and Stathi (2007) have demonstrated a link between PA and students' social class, home environment and economic status, with those from higher socio-economic backgrounds being more likely to engage in PA and sports-based activities. They also had more opportunities available allowing them to experience a wider range of activities, both inside and outside school, with parents encouraging participation in 'elite activities' through the provision of time and effort. Consequently, adolescents from higher socioeconomic backgrounds viewed the body 'as an end in itself,' capitalizing on PA for its health enhancing properties (physical capital) compared to those from lower socioeconomic backgrounds who viewed their body as a 'means to an end'.

Quarmby, Dagkas and Bridge (2011) have investigated the impact that family structure has on engagement of leisure time PA and sedentary time of low income families using a mixed-method design. Results indicated that children from single parent families received less support from parents due to time constraints and additional parental responsibilities meant children spent more time being sedentary both during the week and at the weekend and prevented children from engaging in PA. Moreover, Quarmby et al. (2011) noted that children from two parent families had more opportunities to engage in a variety of activities (both individually and with their parents), such as PA and other positive health behaviours. However, this study only looked at types of PA engaged in and did not consider total time spent engaging in PA, nor did the research design take into consideration the influence of other family members such as siblings on children's PA and sedentary behaviour patterns. Furthermore, it can be argued that while all families involved were classified as deprived there may also be a link between deprivation and family-structure itself in that there is likely to be a greater number of non-nuclear and particularly single parent families in low socio-economic groups.

Gorley, Atkin, Biddle et al. (2009) also advocate the importance of understanding how PA behaviours may differ according to social dynamics such as gender, ethnicity, and socioeconomic status. Gorley et al. (2009) focused on the relationship between both family structure and socioeconomic

status on leisure time PA and sedentary behaviours in high school aged adolescents, and found that boys from single-parent families were more likely to have low levels of PA and high levels of sedentary behaviour. For girls, however, socio-economic status was the determining factor, with those from more deprived backgrounds being more likely to display patterns of low PA and high sedentary behaviours (Gorley et al., 2009).

Other studies have revealed a number of other health behaviours that are related to family structure, including cigarette smoking, alcohol consumption and diet (Blum, Beuhring, Shew et al*.,* 2000; Quarmby & Dagkas, 2015). Quarmby and Dagkas (2015), for example have explored the role of family mealtimes upon young people's eating dispositions in the Midlands. Their results highlighted the differences between family meal practices for different family types, whilst also suggesting that the family may act as a site of informal pedagogy, whereby mealtimes offered an opportunity for some parents, particularly within nuclear families, to pass on knowledge and dispositions of healthy eating. Single parents and blended families, however were said to be less likely to engage in family meals together which restricted the opportunities for these encounters to take place (Quarmby & Dagkas, 2015).

In their study of young adults, Birchwood, Roberts and Pollock (2008) hypothesised that while family socioeconomic status played some part in inequalities in present-day sport participation, many of the differences were traceable to differences in childhood. In particular it was the cultural dimension of family environment that was regarded as the most significant factor or of child sport socialisation that helped shape the crucial dispositions to take part in PA which are passed down through generations of family members, and become habitual. Building on Birchwood et al's (2008) research, Haycock and Smith (2014) aimed to investigate which features of childhood sport socialisation typically precede high levels of participation in sport based activities later in adulthood. They also suggested that parents played a vital role in sport socialisation but this was limited by financial and transport constraints in some families, confirming the findings of Birchwood et al. (2008); and Wilson (2002) which identified that social class is a determinant of child

sport socialisation. Haycock and Smith (2014) concluded that children of parents who were both sport active and who encouraged their children to participate in a range of different leisure-based sports for their intrinsic worth were also more likely to remain involved in sport and PA in adulthood and were likely to be the most frequent participants. Similarly, research into the impact of family culture for sports participation in the UK (Wheeler, 2011) and Norway, (Green, Thurston, Vaage et al., 2015) also highlights how parental investment and involvement in children's sporting activities is likely to lead to higher levels of child sports participation, as sporting cultures are transmitted through networks of families, which is also influenced by social class and gender.

Other family-based research such as that conducted by Zach and Netz (2007) and Candelaria, Sallis, Conway et al. (2012), have also identified how UK societies spend their time and concluded that leisure is central to family relationships since it provides all family members with the opportunity to spend enjoyable time together (Kay, 2009). Shaw and Dawson (2001) propose that parents, in particular, use leisure activities such as sport and PA not only to fulfil their duties as parents but to also socialise and spend time with their children whilst providing opportunities for the child to become involved in positive and valuable leisure activities. This is especially the case for fathers, who spend a large proportion of their time engaging in leisure type activities with their children.

Kay (2009) also notes that fathers whose sons participated in football felt obliged to support them even if they had no interest in sport or football themselves. This form of parental support, particularly related to encouragement, involvement and facilitation has been identified as a vital part of childhood socialisation (Gustafson & Rhodes, 2006) and has clear links to mechanisms of both the Social Cognitive Theory and Self Determination Theory. However, many children do not receive the necessary levels of parental support to promote the benefits of an active lifestyle. Harrington (2015) compared the purposive family leisure practices of working- and middle-class families and found that parents from different classes, pursue leisure activities with their families for different reasons with lower-income

families aiming to spend time together, enjoying themselves through low-cost activities based within the home and local area. In contrast to middle income families who focus more upon the long-term benefits for individual success which engaging in sport and leisure activities can offer children.

Family-based interventions

Davison, Lawson and Coatsworth (2011) have identified that many interventions which are labelled as 'family-based' often focus exclusively on health improvements for children, engaging additional family members purely to support changes in children's health behaviours. This approach may be partly justified when it comes to PA, as while parents PA levels are only moderately associated with those of their children, the relationships between parental support and children's PA is stronger. Given the apparent relationship between parental support and children's PA it must indeed be argued that interventions which only target children, without the involvement of parents and other family members, may be more limited in improving health, while a more holistic and family-orientated approach may be more effective and promote longer-term health improvements.

A number of researchers have attempted to include the family within their children's-based health intervention programmes. Adams, Larowe, Cronin et al. (2012) for example provides support for a family-based approach within a community setting as their findings indicated acceptance of the intervention whilst assisting parents in providing support to their children. Another intervention targeting both adults and children is the Child and Adolescent Trial for Cardiovascular Heath Programme (CATCH), whereby researchers administered a family component within their multi-pronged intervention to improve children's health involving sessions on diet/eating, PA and smoking within a school setting. Children attended a series of sessions over a 12-week period, followed by additional refresher sessions in the following nine months. They were also given weekly activities to complete with their parents at home. Nader, Sellers, Johnson et al. (1996) conducted some secondary analysis on the programme to investigate the effectiveness of the family component and

concluded that there was a relationship between adult involvement and the knowledge or beliefs of their children. However, there was no significant impact of parental involvement on actual behaviour which may have been a limitation of the parental component itself.

In another study, Evangelou, Coxon, Sylva et al. (2013) used an innovative and experimental drop-in service located within a shopping centre to engage hard-to-reach families in a deprived area in the Midlands. The programme was informal, offered activities for children, and provided opportunities for parents to talk to practitioners about their children's development and gain information about useful local services. Their findings revealed that the programme successfully attracted a wide range of users, including many who were considered to be hard-to-reach. This was attributed to the location of the service, the right staff being in place within the service, the information given and the offer of activities for the children to participate in which may be unavailable at home.

Finally, Brown et al. (2015) conducted focus groups with children aged between 8 and 11 years and their families, and results indicated that social, health and educational benefits are key incentives for involvement in PA research, and that children's enjoyment in activities is also a vital factor. Barriers to engagement were also discussed, with a lack of time/scheduling commitments being the most frequently cited, particularly for single parents and parents with multiple children, who also saw involvement in PA interventions as a potential provision for childcare which may encourage involvement (Brown et al., 2015). However, the participants recruited for the study were mainly from a high socioeconomic group, and the researchers acknowledged that more work needs to be conducted with families from more deprived backgrounds to establish whether there are other constraints which families of this type may face, if we are to better understand how to recruit and retain these 'hard-to-reach' families.

Adult-based interventions

In addition to family-based interventions, other health programmes have focused exclusively on adults, many of which have been tailored towards reducing or combating obesity and/or controlling cardiovascular risk factors through PA and diet-based programmes. A recent review study conducted by March et al. (2015) concluded that, in general adult-based community interventions can be considered not only clinically effective but also cost-effective and help improve self-care (e.g. knowledge of the disease). They also suggested that interventions which combine both individual- and community-based approaches can help to increase effectiveness, particularly around weight loss and increasing PA but that there are a number of challenges involved in the assessment and evaluation of health promotion programmes (March et al., 2015). Within health psychology, it has become increasingly common to incorporate behaviour change techniques within intervention studies involving adults, which has led more recently to calls for a more precise specification of which behaviour change techniques are most effective and why and also how this can be understood theoretically (Michie, Abraham, Whittington et al., 2009).

A review by Michie et al. (2009) identified 122 evaluations of adult-based interventions involving components of behaviour change which used an experimental or quasi-experimental design and found such interventions to be classified as effective despite reporting low effect sizes (0.32 - PA and 0.31 – diet). They concluded that intervention content was associated with intervention effectiveness, but incorporating a greater number of behaviour change techniques did not increase effectiveness. Thus, it can be suggested that the process of intervention design is not limited to behaviour change techniques, and elements such as context and/or participant individuality should also be taken into account (Michie et al., 2009). It can also be suggested that the role of the social environment is often significantly under-utilized in PA-based interventions, despite the social environment and specifically social support and access to social capital being identified as a vital correlate for PA behavioural change (Hunter, Tully, Donnelly et al., 2014).

In relation to PA and health promotion, a number of recent interventions have taken into consideration the psychological and physical well-being of individuals, particularly from deprived areas. Mason and Kearns (2013) examined the associations between mental well-being and adult PA participation, while taking into account geographical location and neighbourhood deprivation. 3,854 residents were interviewed at home and the overall response rate was 47.5 per cent, though 95 per cent of participants were white and male. Their results showed mental wellbeing to be lower in deprived neighbourhoods and that there was a strong link between PA and mental well-being scores. This improvement in mental well-being associated with participation in PA was thought to be closely related to improvements in physical fitness and well-being, increased self-confidence, and an opportunity to communicate with others. It was also suggested that taking part in PA provides an opportunity to escape from/or forget about mental illness, even for a short period of time (Mason & Kearns, 2013).

A number of interventions have been also been designed and implemented to reduce or provide support with smoking cessation amongst adults (Secker-Walker, Gnich, Platt et al., 2002) using a range of different strategies such as counselling, workplace interventions, acupuncture or group therapy. However, as noted in a review of reviews provided by Lemmens, Oenema, Knut et al. (2008), although many interventions have been proven to increase smoking cessation rates, the absolute probability of abstinence for smokers remains low, regardless of the type of intervention implemented. Furthermore, many smokers need to go through several quitting attempts using different strategies before finally achieving success. In relation to alcohol intake, early identification and secondary prevention of alcohol problems, screening and the implementation of brief interventions which target hazardous/excessive drinkers who tend not to be considered alcohol dependent, or are seeking help for alcohol use, have generally demonstrated positive reductions in alcohol consumption for males 12 months after completion of the intervention. However, this type of intervention has been less successful amongst female populations (Kaner, Dickinson, Beyer et al., 2009). Other research has

focused on the influence which gender plays on PA, Molloy, Dixon, Hamer et al. (2010) reported that higher levels of social support is associated with higher levels of PA in young adults, and that women have a greater need for companionship and emotional types of PA support compared with men. While Royce, Corbett, Sorensen et al. (1997) note that females are more influenced by social pressure related to health behaviours such as smoking than men (1997).

Football-based community interventions

A number of community-based interventions designed to address numerous health problems, including amongst families have gained increasing political and policy support over the last 50 years or so, which has coincided with an increased expectation that organisations such as professional football clubs become involved in their delivery (Makaros & Zehavi, 2008). In the UK, FitC schemes, in particular have been assumed to be particularly beneficial. These schemes were initially developed in the mid-1970s to restore relationships between local clubs and their communities which had been experiencing hooliganism and rises in unemployment and financial recession (McGuire, 2008). Since then, football and the communities in which it is played have undergone significant economic and cultural changes, gaining popularity through media, advertising, club merchandising and sponsorship, and this has had a positive impact on the efficacy of football-based community schemes (McGuire, 2008). More recently, these schemes have won widespread support by the UK Government which now typically regards football as a key vehicle for addressing wider social issues such as health, engagement in PA, social inclusion and social regeneration (Mellor, 2008).

Despite increased political support for sports-based community schemes including FitC, the effectiveness of such schemes have been questioned and many are said to lack a coherent conceptual foundation' (Hartmann, 2003:134). Coalter (2007) has also noted that these programmes frequently suffer a range of conceptual weaknesses associated with a lack of clarity surrounding what constitutes sport and a lack of diligence around the

outcomes of sport and sporting interventions. Furthermore, the majority of football-based interventions do not use logical research-based procedures and, when they do, often place too much emphasis on immediate outcomes rather than long-term gains, and frequently do not provide information on many of the less successful programmes and interventions (Coalter, 2007). Other researchers have also made reference to these methodological weaknesses, acknowledging that it is extremely difficult to measure the effectiveness and impact of sporting interventions, particularly in comparison to other community-based interventions (Parnell, Stratton, Drust et al*.,* 2012).

Spandler and McKeown (2012) note that many football-based interventions also exclude females who may also potentially benefit from involvement on health-based programmes and suggest that 'football, masculinity, and health need to be taken seriously when these initiatives are developed and theorized' (Spandler & McKeown 2012:387). Promoting more family-based interventions which also include women and children may be one way to overcome this issue, whilst still being attractive to men. Questions have also been asked about the sustainability of FitC programmes, particularly those operated by non-Premier League Clubs, many of which are related to funding concerns (McGuire, 2008).

As a result of the issues identified by Coalter and others, there have been calls for a more rigorous evaluation of FitC schemes in the UK (Nichols, 1997; Tacon, 2007) and, in particular, a greater investigation into the impact that sport-based programmes have on social inclusion and whether these gains are maintained over time rather than simply being 'quick fixes' (Bloyce & Smith, 2010). Bloyce and Smith (2010) noted that as early as 1990 it was noted that information about outcomes is hard to come by, particularly in relation to programmes involving young people yet this issue still needs to be resolved. There have, however, been a number of interventions designed and implemented by Premier League football clubs in the UK, which have begun to be evaluated using a realist evaluation methodology to understand the contexts, mechanisms and outcomes of social inclusion-based football interventions. Tacon (2007) has claimed this method of evaluation is

particularly appropriate given the ‘diverse, localized nature of most football-based projects’ (Tacon, 2007:19).

In the area of men’s health, the first nationally-based programme (the Premier League Health (PHL) Programme) has been developed. This programme aims to raise awareness of men’s health through 16 English Premier League football clubs, specifically targeting young men from deprived areas (Pringle, Zwolinsky, McKenna et al 2013a). Although a national programme, delivery was not standardised and each club was able to identify the health needs of men in their area through a needs assessment process. Results demonstrated the value of football-based interventions for engaging men in health improvement interventions as the programme was able to successfully attract both men with unhealthy lifestyle behaviours and those who did not visit their GP or use health information and advice services. Significantly, positive changes in health behaviours were seen in these individuals which the researchers suggested, if sustained, will ‘reduce the risk of chronic conditions identified in international recommendations for men’s health’ (Pringle et al., 2013a:25). However, in this study, behaviour change was only studied over a period of three months (pre- and post-intervention), and did not examine whether this change was maintained over time. The study also relied on self-report measurements from participants with no objective measurements which can be considered a weakness of the methods.

Pringle, McKenna and Zwolinsky. (2013b) expanded on their earlier research by investigating the design characteristics of the PHL using semi-structured interviews with health trainers responsible for programme delivery using the Reach, Effectiveness, Adoption, Implementation, Maintenance (REAIM) framework. The influence of the club name in generating interest and recruiting participants was considered essential to the success of the programme. It was also noted that while recruitment on match days was an effective form of recruitment, the use of other methods (such as outreach work to recruit and connect with men) was also considered important by some health trainers, as were ‘male champions’ who had been involved with the sessions themselves and invited friends and acquaintances along (Pringle et al., 2013b). The

importance of holding sessions at a time that did not interfere with work commitments was noted alongside the need to: communicate health messages to men in a sensitive and flexible manner (Pringle et al*.,* 2013b). These findings help provide a key insight into how to design and implement effective male health interventions within professional football club settings and provides a template for future interventions. Principles of programmes which involve males could also be adapted for use with the whole family, taking in to consideration different and more flexible ways to deliver health messages to individuals of different age groups in an appropriate and interesting way.

Robertson, Zwolinsky, Pringle et al*.* (2013) also evaluated the PHL to understand the mechanisms which help explain behaviour change among the programme participants. They emphasised the importance of developing trust with participants to initiate their involvement via through two processes: active listening/flexibility and positive social interaction. These were, in turn, facilitated by three main mechanisms: 'the physically vibrant, socially enjoyable aspects of projects; the 'emotional space' for reflection that the projects created; and improved self-efficacy-generating enthusiasm for further change' (Robertson et al*.,* 2013:12). These findings provide clear support for the claim that community approaches delivered by football clubs can engage men who would otherwise have remained outside the reach of standard health services and highlights the importance of the development of long-term interventions which generate greater health benefits.

Gray, Hunt, Mutrie et al*.* (2013) provide further insight into widescale community-based health interventions through the development of the Football Fans in Training (FFIT) programme, which assists overweight and obese men (aged 35-65) with weight loss through a programme of PA and healthy eating. After an initial pilot phase, the programme was implemented by 11 Scottish Premier League clubs and evaluated through a combination of session observations, focus groups and interviews. One suggestion that can be taken from this research is that the coach-participant ratio should be at least 1:15. Issues with attendance/dropout occurred as a result of external variables such as work commitments and poor health rather than those related to

programme content. Coaches also felt the messages related to both healthy eating and PA were passed on in an appropriate method and the simplicity of these messages was a strength of the programme (Gray et al*.,* 2013). However, one criticism of the research design was related to target population, since younger men were excluded from the programme who may have also benefited from the intervention. Additionally, no information was gathered about participant recruitment and response rate, so it is arguably difficult to evaluate how successful the programme actually was at attracting men in the area.

Local FitC schemes

Finally, a small number of studies have been conducted in the region where the research in this thesis was conducted. For example, Parnell et al's (2012) evaluation of Everton in the Community (EitC) reported programme effectiveness based on the perceptions of participants involved in the intervention and data were collected qualitatively. However, it can be argued that using some additional quantitative measures of PA and health behaviour changes would have enhanced the evaluation process. This may have helped better explain why the intervention was not able to influence positive healthful behaviour changes among the children involved and why mentors rather than coaches may be more suited to delivering programmes. Indeed, the findings also suggested that coaches often lacked the skills and experience to deliver community-based sessions and therefore the scheme needed to ensure the right coaches, with the right skills, were employed to maximise their impact on participants.

In another analysis of EitC programmes, Curran, Bingham, Richardson et al*.* (2014) explored participant recruitment, engagement and retention with particular reference to the use of the brand and the importance of maximising the use of the football stadium and club grounds. They also examined the people involved in the programme, including delivery staff, senior and former players and management, to promote and market positive health messages through football-based health programmes. The research suggested that FitC

delivery staff not only need be trained Level 2 coaches, but also equipped to promote other health messages and trained in counselling and behaviour change management.

Summary

This chapter has attempted to provide a critical overview of the existing evidence-base for community-based health interventions (conducted with adults and families), in generating behavioural change. The chapter has also reviewed the impact of income and wealth inequality on the health of individuals and families. From this, it can be suggested that unless interventions address the structural inequalities and social determinants of health which seek to reduce inequalities between groups and across society, they are bound to be met with limited success. The next chapter outlines the theoretical approach which was adopted in an attempt to address this need.

Chapter 3 : Theoretical perspectives

Introduction

Developing adequate theoretical explanations of behaviour change interventions has most usually been emphasized in psychologically-oriented studies of health (e.g. Biddle et al., 2015), though there is growing attention being paid to developing effective behaviour change by sociologists interested in sports-based health programmes (e.g. Coalter, 2007; Mansfield et al., 2015). Psychological studies have suggested that interventions which are underpinned by sound theory to implement behaviour change techniques allow synergistic effects to be identified and also enhance intervention effectiveness (Davis, Campbell, Hildon et al*.,* 2015). However, many psychologically-oriented behaviour change interventions have been designed without the use of appropriate theory. In this regard, Davies, Walker and Grimshaw (2010) have noted that just 22.5% of implementation studies included in their meta-analysis explicitly used theories of behaviour change, a point which they partly attributed to the lack of available guidance on how to select and implement appropriate theory. There is also a lack of consensus, they argue, about whether programmes based on a single theory, or multiple theories, are more effective in enhancing behaviour change (Davies et al., 2010). This having been said, the National Institute for Health and Care Excellence (NICE) (2011) have suggested that no one model of behaviour change is more effective than any other, and that interventions should focus on employing a range of behavioural methods and approaches based upon evidence-based research.

While relatively new compared to psychologically-driven approaches of health behaviour change, sociological investigations of sports-based health programmes have begun to integrate psychological concepts (e.g. self-efficacy, motivation, intrinsic and extrinsic rewards) into their design. Coalter (2007, 2016), for example, has convincingly demonstrated how self-efficacy and motivation have been central components of sport-for-change programmes targeted variously towards ‘at-risk’ youth (especially those with

HIV/Aids and involved in crime and other violence), and have been used as part of broader sociological approaches to enhancing the effectiveness of sports-based peer mentoring and youth social work (e.g. Coalter, 2007, 2016; Pawson, 2006). Other researchers have focused on other aspects of social relationships, including those between physically inactive older populations living in deprived areas of London (Mansfield et al., 2015), as part of evaluations of Sport England's *Get Healthy, Get Active* programme. A theoretically holistic approach to behaviour change, it was concluded, is particularly beneficial for future evaluations of sports-based health programmes (such as the PFP) seeking to better understand the process of participants' engagement in those programmes and associations with any overserved behaviour change (Mansfield et al., 2015).

In light of these on-going debates, the purpose of this chapter is to outline the premises of one framework – the ecological framework – which was used to inform the design and implementation of the PFP. In doing so, it outlines some of the key sociological concepts associated with the work of Norbert Elias and Pierre Bourdieu which provided the foundation for the PFP. Following Coalter (2007, 2016), it also outlines two particularly prominent psychological concepts – motivation and self-efficacy – which were integrated into the theoretical framework informing the PFP, and especially the process evaluation used as a basis for understanding the mechanisms and processes associated with any behaviour change.

Application of an ecological framework

The ecological framework used in the study adopts a holistic view of health behaviour causation and recognises the multiple behaviours associated with PA and health. The term 'ecology' is derived from biological science and refers to the interrelations between organisms and their environments. In the last two decades, ecological models have become increasingly popular, largely due to their claimed ability to guide population-wide approaches which change behaviour and subsequently reduce serious and prevalent health problems (Sallis, Owen & Fisher, 2008). The ecological framework incorporates

constructs from a range of different disciplinary perspectives and acknowledges that while individual influences on health (e.g. motivation or genetic factors) are important, behaviour is also constrained by wider social and environmental determinants (e.g. support from family members and parks/recreation facilities), and policy approaches (including national PA plans and recommendations) (Biddle et al., 2015). Working with this framework, this thesis attempts to address the need to draw upon the disciplines of sociology and psychology to provide a greater understanding of health behaviour change amongst families living within an area of high socio-economic deprivation, and especially of the lessons which can be learned from the process of engaging participants in the PFP.

As Sallis et al. (2008) note, a key strength of adopting an ecological framework in a study such as the one outlined in this thesis is that it considers the multidimensional nature of behaviour to better inform the development of multi-level interventions that maximise the effectiveness of these interventions. However, some ecological models have been criticised for being too broad and lacking the necessarily specificity to help design and develop appropriate interventions which bring about desired behaviour change (Sallis et al., 2008). To overcome this problem, it has been suggested that additional and more specific models and theories need to be integrated into ecological frameworks (Elder, Lytle, Sallis et al., 2007), including those derived from sociological and psychological frameworks. This thesis attempts to incorporate psychological constructs of behaviour change, namely self-efficacy and motivation alongside the key sociological theories of figurations, networks of interdependency, habitus, power and capital associated with the work of Elias and Bourdieu, to help explain the health, physical activity and sedentary behaviours of the families studied. While it is acknowledged that these sociological concepts are clearly inter-related, for ease of presentation they will be discussed separately within the forthcoming sections.

To date, many health interventions have often been based primarily on highly individualised psychological approaches (e.g. the Theory of Planned Behaviour and Health Belief Model) and based on the assumption that

individuals are aware of, and are able to control, their health (Mansfield et al*.,* 2015). However, there are a number of psychological theories which operate at an interpersonal and ecological level which include components from the individual and interpersonal levels and also extend the focus of change to include constraints generated in the wider external society (Linke, Robinson & Pekmezi, 2013). However, as Spence and Lee (2003) have noted, even those labelled as 'ecological' have not devoted sufficient attention to the wider physical and social environmental constraints on behaviour which help produce health outcomes such as PA.

While some ecological models are claimed to take into consideration the various constraints which shaped the actions of individuals, researchers have typically focused upon present-day social conditions without considering how an individual's histories and relationships shape their engagement in particular health behaviours which are often deep-rooted and resistant to change. Thus, an appreciation of how one's tastes or habits for particular behaviours (such as PA) are developed is frequently absent in discussions of health from an ecological perspective. This inherent weakness is indicative of the existence of a persistent divide between the sub-disciplines of psychology and sociology of sport and PA, (Smith & McGannon, 2015). Since the start of the twenty-first century, Spence and Lee (2003) have noted that researchers have gradually begun to recognise the importance of developing cross-disciplinary relationships (e.g. between exercise scientists and sociologists) when undertaking research in the field of health and PA. Spence and Lee (2003) note that this type of cross-disciplinary approach would help overcome the common tendency to focus either on individual behaviour (said to be more common in psychology) or the significance of wider social dynamics (thought to be more common in sociology) - despite the fact that many concepts which feature in sociology (e.g. personality and identity) are traditionally psychological concepts (Roberts, 1999).

More specifically, Burke, Joseph, Pasick et al*.* (2009) note the need to incorporate an understanding of social context – as emphasised in the social science disciplines of anthropology and sociology into emerging social

cognitive and ecological models to develop a more adequate understanding of health behaviour. Duncan (2015) reviewed 11 studies with a range of populations, in various geographic locations, focusing on a range of health outcomes and concluded that social context can influence health outcomes. However, Duncan (2015) also proposed that more research is needed which is designed to (qualitatively and quantitatively) explore mechanistic pathways and the social contexts in which they are embedded and shape health behaviours and choices. To that end, the next section outlines some key sociological concepts associated with the work of Elias and Bourdieu which were used in the present thesis to better understand the social contexts in which the PFP was delivered. These were also used to develop an adequate explanation of the participants' process of engagement in the programme as an aspect of its overall effectiveness in generating behaviour change among families.

Figurations and networks of interdependencies

A central and long-standing concern of many sociologists has been the attempt to conceptualise adequately the relationship between individuals and the societies they form, or between what is conventionally described as 'agency' and 'structure' (Dunning & Hughes, 2013; Elias, 1978; Roberts, 2008). One attempt to overcome the dominant tendency to conceptualise this relationship in dichotomous (i.e. either/or) terms was the introduction by Elias of the concept of the 'figuration' (Dunning & Hughes, 2013). Elias (2000: 316) defined the figuration as 'a structure of mutually oriented and dependent people'. He claimed that conceptualising dynamic human relationships as 'figurations' overcomes the tendency to present people as freely acting individuals who exist independently from each other; that is to say, as if they are each a *homo clausus* and isolated from other members of the wider society. Instead, Elias argued that it is important to view human beings in the plural, as *homines aperti*; that is to say, as 'a multiple of people, each of them relatively open interdependent processes' who 'through their basic dispositions and inclinations are directed towards and linked with each other in the most diverse ways' (Elias 1978:14).

Elias also argued that while many of our more immediate social relationships are experienced on a face-to-face basis (e.g. between children and their parents), most are usually of the non-face-to-face variety (e.g. between family members and others of whom they have no personal knowledge) (Dunning & Hughes, 2013; Elias, 2000; Goudsblom, 1977). The concept of the figuration is particularly important for this thesis given its central concern with better understanding how past and present relationships help structure present-day PA and health behaviours in configuration with particular family circumstances and social backgrounds (Tajfel & Turner, 1979; Nettleton, 2013). Doing so requires us to appreciate Elias's view that humans are inevitably interdependent with a wide range and number of many other people from birth. As Goudsblom (1977:7) has noted:

> From the moment it is born a child is dependent upon others who will feed, protect, fondle, and instruct it. The child may not always like the constraints exerted by its strong dependencies, but it has no choice. By its own wants it is tied to other human beings - to its parents in the first place, and through its parents to many others, most of whom may remain unknown to the child for a long time, perhaps forever. All of the child's learning, its learning to speak, to think, to act, takes place in a setting of social interdependencies. As a result, to the very core of their personalities (people) are bonded to each other. They can be understood only in terms of the various figurations to; which they have belonged in the past and which they continue to form in the present.

Thus, for Elias, while humans are dependent on others throughout their lives in the context of interdependency networks, the balance between the dependencies of a person and others within their networks varies across time and space (Gouldsblom, 1977; Elias, 2000; Dunning, Malcom & Waddington, 2004). For example, within the structure of the family, offspring are born as infants and have to be fed or protected for many years by their parents or other adults, who then grow up and begin to provide for themselves. As their parents then age, they themselves may require assistance or care from their children, especially in older age (Goudsblom, 1977). A recognition of the changing

balance in the dependencies between children, young people and adults in family settings also brings to close attention the differential power relations between individuals and groups in those settings.

Power

For Elias, power is a structural feature of all human relationships, or figurations, rather than something which can be possessed like an object (Dunning & Hughes, 2013; Elias, 1978). More particularly, Elias regarded power as polymorphous, many sided and present in all human relationships. He argued that power is best conceptualised in terms of power ratios or 'shifting balances of tensions' which are multi-dimensional in character (Dunning & Hughes, 2013; Elias, 2000). Viewing power relationally, argued Elias, provides the opportunity to recognise that questions of power are fairly distinct from questions of freedom and domination and all human relationships are relations of power (van Krieken, 2001).

Elias also acknowledged the reciprocal workings of power, since he claimed that human relationships are inevitably enabling and constraining elements of the relationships between individuals, groups and the societies they form (Elias, 2000; Turner, 2005; Dunning & Hughes, 2013). Consider, for example, the relationship between a parent and their child when the child attends weekly swimming lessons. It is clear that the balance of power is heavily skewed towards the parent since they occupy a more powerful position than their child and the child is dependent on their parent to attend the lessons. However, the child also has some power over their parent as the adult is required to pay for the lessons and also for transporting them to and from the swimming baths. Thus, regardless of how unequal social relationships may appear, they are always characterised by degrees of power which are dynamic and can, and often do, shift in favour of apparently less powerful groups (like children) and away from seemingly more powerful ones (like parents) (Gouldsblom, 1977; Dunning & Hughes, 2013).

A recognition of the dynamic and multi-dimensional character of power relations is thus an important theoretical consideration of the present study, particularly in relation to understanding the links between parental PA and that of their offspring. However, recognising the dynamic power relations between and within families, and between families and other groups (e.g. providers of sports-based health programmes), is also important for understanding the process of participants' engagement in community programmes intended to address the PA and health of families such as the PFP. Focusing attention on the differential power relations between the various groups which comprise the figurations of which families formed in the past, and continue to belong in the present, also helps identify the various unintended consequences which arise from these networks (Dunning & Hughes, 2013; Elias, 1978).

Unintended consequences

Within his study of human social life, figurations and power, Elias, like many other sociologists, was also centrally concerned with analysing the relationship between intentional human action and the unplanned outcomes of these actions (Dunning et al., 2004; Elias, 1978). Elias argued there is never a direct and un-complicated relationship between human actions and outcomes and the choices that one makes can, depending on their position within their figurations, impact on them specifically, on members of the wider networks of which they are immediately a part (e.g. their family), and in certain circumstances on a whole nation (Dunning et al., 2004; Elias, 1978). For Elias, as intentional human action becomes interwoven with the intentional actions of others, this most usually results in further chains of actions which produce largely unplanned, unintended outcomes (Elias, 1978, 2000). Indeed, for Elias, unintended outcomes are the normal result of the complex interweaving of actions of large numbers of people, rather than something which is unusual or *ad hoc* (Dunning et al., 2004). Elias (1978: 58) summed up the unplanned nature of social life thus:

> People can only hope to master and make sense out of these purposeless, meaningless functional interconnections if they can

recognise them as relatively autonomous, distinctive functional interconnections, and investigate them systematically.

That the unintended consequences of purposive social action are, then, the normal outcome of the complex interweaving of human interaction (Elias, 1978), is a view which is particularly important for this thesis. For example, while programme such as the PFP may bring together groups in social settings, the newly established relationships between the participants may also provide the context for other health behaviours (e.g. communal alcohol consumption), which limit the effectiveness of the programme's intended aims. Indeed, these kinds of social contexts provide opportunities for participants with different kinds and amounts of capital to 'exchange' these for others, not always in ways which are health promoting. The next section discusses the theoretical concept of capital which is central to the work of Bourdieu before the closely related concept of habitus is considered.

Capital

Bourdieu (1984) conceptualises the notion of power slightly differently to Elias and labelled this concept 'capital'. He identified three dimensions of capital: social capital, economic capital and cultural capital, proposing that each of these is related (uniquely) to social class. While others (e.g. Coleman and Putnam) have also conducted significant work on social capital, for the purpose of the thesis Bourdieu's approach will be used to help understand the engagement of families in the PFP and any associated impact on their behaviour.

Bourdieu described the concept of social capital as 'the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalised relationships of mutual acquaintance or recognition' (Bourdieu 1986:248). On this view, each group member is provided with access to shared capital which can be drawn upon by individuals in the group. Social capital can thus be used to obtain resources alongside, or in the absence of, other forms of capital (e.g. economic or cultural) and is

closely associated with class position (Bourdieu, 1986). In this way those from lower classes may potentially be excluded from obtaining valuable resources in particular networks to enable them to undertake particular activities.

The amount of social capital an individual possesses is dependent on two factors: the size of network connections that that individual is able to mobilise, and the kind of capital (social, economic and cultural) people are able to gain access to in these networks (Bourdieu, 1986). Therefore, while members of an economically disadvantaged community may have strong social networks, the amount of available capital possessed by the individual members of the community may be relatively low, especially when compared with more affluent groups (Wakefield & Poland, 2005; Nicholson & Hoye, 2008). According to Bourdieu (1986), there are also different types or levels of social capital which explain the strength of ties between groups. These are:

1) Bonding social capital which refers to is the connections or ties between people in similar situations (e.g. family groups or close friends) who exhibit similar demographic characteristics and are of a similar socio-economic position. Groups defined by these relations have a high degree of homogeneity.

2) Bridging social capital which includes looser ties between people or groups (e.g. work relationships or loose friendships), provide people with access to valuable resources and knowledge outside their immediate networks.

3) Linking social capital refers to situations when individuals and groups from different networks, or from different social backgrounds, are brought together and interact allowing those from lower positions to access resources beyond normal community linkages.

Bourdieu (1984) also suggested that culture is a form of capital which is central to the constitution of class relationships and provides the basis of inequality as people are exposed to different cultural experiences through socialisation

and education. In this way, those from the higher classes are exposed to certain highly valued or 'legitimate' forms of culture early in life which shapes the development of particular tastes or preferences (e.g. for particular sports of PA) (Poortinga, 2006; Malcolm, 2016). However, while acknowledging the importance that social class plays within culture, Bennett, Savage, Silva et al. (2009) indicate there are other potential factors which may influence culture and related capitals in modern day British society (particularly gender, ethnic origin and age) which in their view is insufficiently accounted for in Bourdieu's explanation.

Bourdieu (1984) also proposed that cultural capital exists in three different forms or sub-types. The first form is the embodied state or 'physical capital', which refers to long-standing dispositions of a person (i.e. manifested in one's demeanour, accent and dress style or a cultural resource invested within the body). In a sporting context, physical capital can also been seen to consist of physical attributes and abilities (such as strength or skill) that are expressed through particular sporting and social practices. However, more recently, a number of researchers have called for a broader understanding of capital which recognises the body as a form of capital in its own right. Shilling (1991:454) argued that the management and development of the body is 'not only central to human agency, but is also a vital component of the production of both cultural and economic capital and the attainment and maintenance of status'. The second form of capital for Bourdieu (1984) is known as the objective state, which refers to possessions or cultural goods (e.g. books, instruments and paintings), while the third form is the institutionalised state, which refers to honour deriving primarily from obtaining educational qualifications (Bourdieu, 1986).

In his later works, Bourdieu (2005) began to recognise additional forms of cultural capital which may exist specifically for certain social groups (e.g. technical capital for working class men). Bourdieu suggested that while a number of distinct autonomous cultural fields exist (such as literature, arts or sport), he also recognised that there are similarities or homologies between fields and claimed that the same principles govern each (Bourdieu, 2005).

Finally, as Bourdieu noted, economic capital (income and financial resources) is central to all other types of capital and other types of capital can ultimately be derived from economical capital. In some cases, this is regarded as a fairly straight forward process, such as having a certain level of economic capital which gives immediate access to certain goods and services such as a weekend away in an expensive hotel. However, access to other goods and services, he argued, may be more exclusive and reliant on social capital (personal connections) as well as economic capital. Economic capital can also be 'converted' into cultural capital but may require an investment of time and other resources which may or may not be available to social groups including families (Bourdieu, 2005).

Habitus

Camic (1986:1046) defined habitus as 'the durable and generalized disposition that suffuses a person's action throughout an entire domain of life, or in the extreme instance, throughout all of life – in which case the term comes to mean the whole manner, turn, cast, or mold of the personality'. Bourdieu (1978) used the concept of habitus to explain human behaviour, with social class or class position being central to the predispositions, values and behaviours one is exposed to (largely through childhood) and transmitted between generations and within families inter-generationally (Bourdieu, 1978; Cockerham, 2005). This Bourdieusian notion of habitus suggests that one's inclination towards a particular view or understanding of the world is not simply the product of individual choice, but is also related to social position and relationships with many other groups from whom people inherit and internalize predispositions values and behaviours. As Wacquant (2016) has also noted, people have their own individual habitus, due to their unique trajectory and location within the social world, but there are also clear similarities which are shared by groups of people who have been subjected to similar social conditions.

Bourdieu (1986) also discussed the relationship between habitus and cultural capital and noted that if tastes for different types of legitimate culture coalesce,

or there are homologies across one's fields, this occurs purely as a result of the level of education and social position. In particular, Bourdieu (1986) claimed that the connections between class and cultural capital are more pronounced for professional members of the society who, while classified as upper class, are to be found in the lower portion of the upper class. In other words, the 'dominated fraction of the dominant class' (Bennett et al., 2010: XXI), as Bourdieu described them, are regarded as being better able to draw upon the capital possessed by the more dominant characters of this grouping and achieve advantage from them.

While the term 'habitus' is most closely associated with, and generally attributed to Bourdieu, the concept had been discussed earlier by a number of key thinkers including Weber, Durkheim, Maaus, and of particular reference to this study, Elias in *On the Process of Civilisation* (Dunning & Hughes, 2013). Elias, like Bourdieu, argued that human conduct is underpinned by dispositions which are acquired through the experiences and world in which people live, and regarded habitus as one's 'second nature' or 'embodied social learning' (Elias, 2000; Dunning & Hughes, 2013). However, what distinguishes Elias' concept of habitus from that of other sociologists such as Bourdieu is his view of habitus not as a fixed state, but as a dynamic process. Elias (2000) argued that habitus development begins at birth and is particularly malleable in the early stages of one's life, where children are reliant upon the knowledge and guidance of those human beings around them (usually their parents or immediate family) to learn, develop and ultimately survive. While childhood and youth were regarded by as Elias as being the most impressionable phase of habitus development, it nevertheless changes albeit more slowly throughout the whole of one's life, and occurs alongside, and as a result of social change (sociogenesis) (Elias, 2000).

Elias also made reference to a concept he labelled 'psychogenesis', which in essence is the process by which the personality structures of an individual's behaviour gradually develops, or what Freud called the 'superego' (Elias, 2000; Dunning & Hughes, 2013). Therefore, Elias' view of habitus moves away from viewing social class as the sole determinant of person formation or

habitus, and takes into greater consideration other potential sources of social division which also contribute to habitus development (e.g. age, ethnicity or gender) at the social and psychological level (Dunning & Hughes, 2013; Elias, 1978). Elias' concept of habitus can be linked into the 'person' strand of Bandura's model of reciprocal determinism in that habitus is responsible for one's internal competencies (e.g. our attitudes and beliefs), which can also change and develop over time.

In contrast to sociology, health psychology research has focused on understanding 'habits' for predicting and influencing the health behaviours of individuals. Much of this research conceptualizes the notion of a habit as 'a cognitive-motivational process by which a stimulus automatically generates an impulse towards action, based on learned stimulus-response associations' (Gardner, 2015:280). The primary distinction between habitus (as conceptualized by sociologists) and habit as typically seen in psychology has been outlined by Crossley (2013) who has explained that 'habit' suggests individual variation, while habitus incorporates both individual variation (or individual habitus as Elias claimed) and variation between social groups (or in Eliasian terms, group habitus) (Dunnning & Hughes, 2013; Waquant, 2016).

However, from a psychological perspective, Wetherall (2012) claims that an affective inter-sectional approach is required since the concept of habitus assumes too much affective order and the 'implicit psychology of the affective social actor underpinning this work is incomplete' (Wetherall, 2012:105). Thus, according to Wetherall (2012) an alternative approach which includes an individual's personal histories, ideologies, and the social orderings of routines connecting the personal and the social is required. However, despite the apparent benefits of this psychosocial approach, it has been criticised by sociologists for paying insufficient attention to the wider social relationships and being fundamentally unable to advance understanding of the social affective dimensions of habitus (Silva, 2016).

Self-efficacy and motivation

The construct of self-efficacy has been studied extensively in psychologically-oriented PA research and has often been labelled as an important correlate or determinant of PA (Biddle et al., 2015). It was also noted earlier, however, that attempts to understand the role of self-efficacy in encouraging, or dissuading, key target groups (e.g. young people) of sports-based community programmes have gradually become more commonplace among sociologists (Coalter, 2007, 2016; Mansfield et al., 2015; Pawson, 2006). In both psychological and sociological investigations, researchers have most commonly drawn upon the social cognitive work of Bandura who defined self-efficacy as:

> People's judgements of their capabilities to organise and execute courses of action required to attain designated types of performances. It is concerned not with the skills one has but with judgements of what one can do with whatever skills one possesses. (Bandura, 1986: 391)

Thus, self-efficacy can be considered a situational-specific form of self-confidence with four main sources of information being regarded as central to the development of self-efficacy beliefs (Bandura, 1986:399). These are:

- Prior success and performance attainment –This is considered the most powerful of all efficacy sources as it is based upon personal experiences of success and failure. This can be linked to the predispositions, values and behaviours which one is exposed to and shapes the formation of habitus.

- Imitation and modelling – Refers to how observing others' successes or failures can impact on efficacy beliefs, particularly if the individual has little or no personal experience of the task. This is also shaped by the extent to which the individual identifies with the person performing the task (social comparison) which can occur in the context of social relationships.

- Verbal and social persuasion – where persuasion from others impacts self-efficacy perceptions, but is considered to make a weaker contribution than the previous two forms of self-efficacy. This can also be linked to the notion of power, particularly persuasive power, where the greater the credibility of the source, or the amount of power weighted in favour of that individual, the more influence it has.

- Judgements of physiological states – Refers to how somatic feedback can have a positive impact on self-efficacy, but there is less research to support this hypothesis.

It has been suggested that self-efficacy can influence the choices people make and the courses of action they pursue across a number of domains (Bandura, 1986). However self-efficacy may exhort particular influence on PA, as this type of task involves challenging tasks, requires considerable expenditure of effort and continued persistence is synonymous with adherence (McAuley & Blissmer). Therefore, efficacy beliefs are considered to be essential motivational regulators of this behaviour. For example, a lack of initial self-efficacy may prevent individuals from attempting to engage in PA-based activities in the first place (Biddle et al., 2015). Alternatively, an increase in self-efficacy (via one of the aforementioned sources of self-efficacy beliefs) may lead to success in reaching PA goals which can then lead to a further increase in self-efficacy. While failure to reach PA goals can lead to decreases in self-efficacy, and drop-off in, or from activity to protect oneself from further feelings of failure. Research also suggests that increasing self-efficacy is an effective mechanism for increasing PA and thus interventions which implement behaviour change techniques which focus on increasing levels of self-efficacy have been found to be effective (French, Olander, Chisholm et al., 2014). For example ‘prompt self-monitoring of behavioural outcome’ and ‘plan social support/change’ (Olander, Fletcher, Williams et al., 2013).

The majority of research has presented self-efficacy as a trait or individual difference, but it has also been conceptualised as a within-individual state that fluctuates over time and may have a varying effect on PA. For example, the findings of a study PA and self-efficacy amongst postmenopausal women (Prabu, Pennell, Foraker et al*.,* 2014) found state self-efficacy to be a robust predictor of PA as levels of self-efficacy changed depending on the number of steps and self-efficacy reported on the same day as PA. Blanchard, Fortier, Sweet et al. (2007) also compared the results of a 13-week primary care PA intervention to a control group over 25 weeks and found that general or 'task' self-efficacy significantly predicted PA within the intervention period, however the strength of this relationship became significantly weaker over time. Participants' confidence in their ability to attain their weekly PA goals despite a number of commonly identified barriers, remained stable over time (Blanchard et al., 2007). This finding suggests that self-efficacy is acutely temporally linked to behaviour and that current self-efficacy will predict current PA but less so in the future. This further suggests that once individuals have begun to engage in PA through an intervention, it is their confidence in their ability to overcome barriers which is important in influencing long-term participation (Blanchard et al., 2007).

Bandura also differentiates between perceived self-efficacy - which relates to the belief of ability to carry out a particular behaviour (e.g. complete a 5km run) and - the belief that a particular behaviour will result in a desirable outcome expectancy (i.e. the belief that running 5km will lead to cardiovascular benefits). Perceived self-efficacy and outcome expectations provide the basis of self-confidence, which relates to the strength of the belief or conviction, but unlike self-efficacy does not specify the level of perceived competence (Bandura, 1986).

Like self-efficacy, the psychological concept of motivation has also been repeatedly identified as a key determinant of engagement in PA programmes and in their effectiveness in stimulating behaviour change. The concept of motivation has been defined as 'the hypothetical construct used to describe the internal and/or external forces that produce the initiation, direction,

intensity and persistence of behaviour' (Vallerand & Thrill, 1993:18), and provides an understanding of why people initiate and persist with particular behaviours (Van den Berghe, Vansteenkiste, Cardon et al., 2014). Research has also consistently demonstrated the presence of two major types of motivation: intrinsic, which comes from within or refers to the fact of doing an activity for its own sake, and extrinsic motivation which is motivation driven by a force outside the individual (Biddle et al., 2015), however others suggest the existence of several forms of motivation which lie along a continuum from the most controlled (external) to the most autonomous in which the perceived locus of causality is fully internal or intrinsic (Deci & Ryan, 1985; Friederichs, Bolman, Oenema et al*.,* 2015).

It has been suggested that a sense of autonomy and competence are vital to the processes of internalisation and integration through which an individual, in their social contexts comes to self-regulate and sustain these new behaviours (Ryan et al., 2008). In this view, if individuals are more autonomously motivated to engage in healthy behaviours they are more likely to continue with this type of behaviour. In the case of PA, more autonomously motivated individuals are more likely to be physically active as they find this type of activity and behaviour meaningful (Hagger, Chatzisarantis, Cluverhouse et al*.,* 2003). Conversely, if people are extrinsically motivated, the removal of any external rewards of external pressures contributing to that motivation would lead to a decline in motivation in the absence of any intrinsic forms of motivation (Biddle et al., 2015).

Process evaluation and programme theory

As Coalter (2007:3) has noted, 'all social interventions are hypotheses about relationships between programmes, participants and outcomes' which need explaining theoretically, including through the concepts reviewed in this chapter. Process evaluation is a method which can be used in order to document program implementation and further understand the relationship between specific program elements and associated outputs (Saunders, Evans & Joshi, 2005) that inform policy and practice. Adopting a process evaluation

approach provides an opportunity to examine both the quantity and quality of the intervention, or what was actually implemented in practice, why and with what activities.

The adoption of this method has been advocated within the new (2008) Medical Research Council's guidance on developing and evaluating complex evaluations. Furthermore, in the last 20 years there has been a growing recognition that programme evaluations grounded in a theoretical context yields many advantages. It can be suggested that interventions themselves are 'theories incarnate' (Pawson & Tilley, 1997), as intervention studies always make assumptions about current problems and aim to produce desired behaviour change. In particular, findings generated from theory-based programme evaluation studies not only enhance intervention conceptualisation, but also help contribute to on-going theory development and validation (Karachi, Abbott, Catalano et al*.,* 1999). Moore, Audrey, Barker et al*.* (2013:1) discuss the shortcomings of many current public health interventions, namely the failure to articulate clearly the key assumptions on which they are based, and the tendency to focus predominately on implementation and context, whilst failing to recognise and/or report casual mechanisms. They also highlight the need for interventions to test and develop intervention theories, rather than 'simply provide pass or fail assessments of effectiveness' (Karachi et al., 1999).

To assist in the development of theory-based interventions, Coalter (2007) suggests that researchers, policy makers and practitioners should discuss and agree upon their programme theories - including their assumptions about the nature of the problems which they seek to address and their relationship to programme design and delivery at the outset. Mansfield et al*.* (2015) have also advocated the use of a process evaluation approach to effectively inform both practice and policy within community sport and PA, and have noted that this type of approach in small-scale interventions has the potential to be scaled-up and rolled out in other geographical areas. This approach, they suggest – should involve discussion about the precise mechanisms of impact and contextual factors which are likely to generate behaviour change, in a

particular programme, rather than assuming that the programme itself will produce particular outputs and outcomes (Coalter, 2007).

Chapter summary

The purpose of this chapter has been to outline the central ecological framework and key sociological theories and psychological concepts that provided the theoretical basis of the research reported in this thesis. It has been argued that psychological approaches have commonly dominated theoretical understandings of community-based programmes intended to promote PA and health. However, it has also been argued that there has been growing interest among sociologists in developing theoretically-oriented accounts of social life guided by key sociological concepts (e.g. figurations, capital and habitus) and more traditional psychologically-inspired concepts including self-efficacy and motivation. The research reported in this thesis seeks to add to the latter body of work, in particular, with the research methods used to generate data which answer the key research questions being presented in the next chapter.

Chapter 4 : General methodology

Introduction

The previous chapter identified the theoretical framework within which the current research was located. The objective of this chapter is to explain how this framework was used to inform the selection of the phased approach adopted in the study and to support the selection of the associated research methods. In doing so, the chapter outlines: (i) the key research approaches adopted (ii) the benefits of longitudinal research designs (iii) why a mixed-methods approach was used and (iv) the methods used to generate data for the study. The chapter ends by providing an overview of the PFP, its setting and delivery.

Quantitative and qualitative approaches

Any discussion of approaches to research involves the recognising of the existence of two main types of research: the qualitative approach, which provides ‘a means for exploring and understanding the meaning individuals ascribe to a social or human problem’ (Creswell 2009:4), and the quantitative approach, which provides ’a means for testing objective theories by examining the relationship among variables’ (Cresswell 2009:4). The philosophical ideas which underpin these approaches said to be notably different and while both approaches are concerned with acquiring or enhancing knowledge within their respective fields, what constitutes knowledge and how this knowledge is confirmed or proved is where the difference between them lies. This is often referred to as epistemology or the meaning of knowledge (Bryman, 2012). Likewise, ontological issues – that is the nature of social life - within qualitative and quantitative research approaches are also said to differ (Bryman, 2012).

Quantitative approaches involving methods such as questionnaires are said to be underpinned by a positivist epistemology and dominates much of the research carried out in mainstream psychology and its associated sub-

disciplines (e.g. health psychology). According to Bryman (2012), positivism entails the following principles:

1) Phenomenalism – knowledge can only be classified as such when confirmed by the senses.
2) Deductivism – the purpose of theory is to generate hypotheses that can be tested.
3) Inductivism – knowledge is obtained through the gathering of facts.
4) Science/scientific research must be conducted in an objective way.

In contrast, qualitative approaches where methods such as semi-structured interviews or focus groups are used – are said to be underpinned by the notion of interpretivism, a concept which is fundamentally different to that of positivism, the favoured method within the natural sciences. Qualitative researchers it is claimed, assume that not all knowledge is of the objective kind and in order to explain the social world, we need to take into greater account the more-or-less subjective interpretations people have of that world. These subjective perceptions lend themselves particularly well to inductive approaches of research, which involves the generation of theory being explored through people's (participant's) interpretations of the social world (Punch, 2005). This approach to research is frequently adopted in the social sciences, including sociology.

Notwithstanding these traditional conceptions of research approaches. It has been suggested that discussing the nature of social and psychological research, and the distinctions between quantitative and qualitative approaches in these dichotomous terms is too simplistic (Bryman, 2012; Waddington & Smith, 2014). Indeed, quantitative and qualitative approaches may not be as discrete as they first appear and research such as that reported in this thesis does not necessarily fall into one category or another: in some cases, research can, and does contain aspects of both research approaches (Bryman, 2012). It can therefore be suggested that they should not be viewed as dichotomies, but instead should be considered to represent different ends on a continuum (Newman & Benz 1998). There is also a need to acknowledge that, in reality,

all research involves a blend of both which changes depending on the research questions being addressed and how the methods selected to answer these questions are deployed (Bryman, 2012). This does not mean, however, that researchers adopting these methods are bound to generate or analyse data that are either purely qualitative or quantitative. Research methods are simply tools a researcher uses to generate data which are in turn informed by their ontological and epistemological position and a number of practical considerations. In addition, labelling research approaches as either deductive (whereby the researcher provides a hypothesis based on existing theory and research and then either accepts or rejects this hypothesis based on their research findings) or inductive (whereby the researcher firstly gathers their data, carries out analysis and then attempts to develop theory based on their findings) is also problematic (Bryman, 2012). In fact many research studies, including the present study involve a combination of both inductive and deductive approaches to answer the research questions set.

It should also be noted that, while much emphasis has been placed on contrasting quantitative and qualitative research, there are a number of similarities between them, including the fact that both are primarily concerned with answering research questions and enhancing knowledge about a specific topic area (Bryman, 2012). Additionally, while quantitative and qualitative researchers may generate their data in different ways, they are often faced with large amounts of data which need to be interpreted and explained which is often overlooked within research (Martin, 2011). Finally, while both quantitative and qualitative researchers continuously strive to be clear and transparent about their research procedures and make attempts to minimise error throughout the research process, this can lead to misleading or inadequate reviews of quantitative and qualitative research approaches which does not do justice to the contributions that each makes to human understanding of the social world in which we live (Sparkes & Smith, 2013).

Longitudinal research designs

Longitudinal research designs involve research in which data are generated at two or more distinct time points from the same group of participants and then data are compared (Menard, 1991). While the type of data generated are typically qualitative in nature, longitudinal research designs offer an opportunity to bridge the quantitative and qualitative research traditions as it presents an opportunity to use both paradigms to provide in-depth data related to social change (Ruspini, 1999). It can be argued that longitudinal research is sometimes a more suitable approach than a cross-sectional design which involves generating data at one point in time and is unable to provide information about how and why health behaviours and social relationships may change over longer-term (Bauman & Nutbeam, 2014). In relation to health intervention programmes, Bauman and Nutbeam (2014) suggest that short-term health outcomes or behaviours can be measured immediately after an intervention period, but they should also be measured again after a period of months to establish whether these behaviours have been maintained over time. However, as Bock, Marcus and Pinto (2001) have noted, little research has studied the maintenance of PA at least 6 months post-intervention. Often because of the difficulties in attracting participants, funding constraints and other practical and design concerns.

In contrast to much of the available literature, a longitudinal design was adopted in the current study to investigate not only how and why the PFP intervention impacted on the health behaviours and lives of the families immediately post-intervention, but also to explore the long-term social health outcomes which may have occurred as a result of families' involvement in the project. The next section will discuss the particular methods adopted as part of this longitudinal research design.

Adopting mixed-methods approaches to research

In this study a mixed-methods approach to research was adopted as part of a longitudinal design. Mixed-methods research is an approach to inquiry that combines both qualitative and quantitative forms of research. It has been labelled as the 'third methodological movement', following the development of quantitative and qualitative approaches (Tashakkori & Teddlie, 2003). On the one hand, conducting research in this way can be considered advantageous since combining both approaches can increase the strength of a study, providing information about the 'what', 'how' and 'why'. The approach can also help minimise the weaknesses that are central to quantitative and qualitative approaches when used individually, whist answering questions that cannot be answered by a single approach (Bryman, 2012). This type of approach also attempts to bridge the divisions between the natural and social sciences and mixed-methods can be considered particularly useful when conducting research over a longer period of time such as several months or years. Studies involving mixed-methods research therefore may involve quantitative and qualitative data being gathered simultaneously or sequentially (Cresswell, 2011), particularly in programme evaluations of health promotion programmes (Bauman & Nutbeam, 2014).

On the other hand, while adopting a mixed-methods approach to research can be considered a useful way in which to resolve and break down the divide between quantitative and qualitative approaches, it has not been without its critics and has faced much resistance in the both the social science and psychology fields since its establishment. Arguments against undertaking mixed-methods research have centred around two key issues: (i) the idea that research methods convey epistemological commitments; and (ii) that quantitative and qualitative research are separate paradigms and are ultimately incompatible (Bryman, 2012). However, as a number of authors have argued the methods which one adopts should be informed by the research question being addressed, rather than the preferences of the researcher and/or research team (Bryman 2011; Punch 2005).

Ivankova, Cresswell and Stick (2006) suggest that there are two key categories mixed-methods studies fall into: typology-based approaches and dynamic approaches. Typology approaches emphasise the classification of useful mixed-methods design and involve selecting this design and then adapting it according to the study's purpose and questions. Dynamic approaches, in contrast, are said to include the consideration and combination of multiple components of research design rather than selecting an appropriate design for an existing typology. The majority of the research methods literature has focused on the explanation and classification of typology-based approaches, however there are some differences in classifications and terminology within different disciplines. Within the social research paradigm, Bryman (2012) makes reference to no fewer than 16.

Examples of these classifications include; 'triangulation' (where both quantitative and qualitative elements are combined in order to triangulate findings which can then be mutually corroborated); 'explanation' (where at least one of the two research methods can be utilised to explain findings generated from the other); 'context' (whereby a mixed-methods approach is rationalised as the quantitative findings providing breadth of data and qualitative data providing context and adding depth to the knowledge gained); or 'process' (whereby the qualitative research elements provide an account of structures in social life and the quantitative data provides a sense of process) (Bryman, 2012). However, regardless of the approach adopted, some researchers have highlighted the importance of maintaining the integrity of both quantitative and qualitative elements in mixed-methods research (Morse, 2003). In the psychological research domain, which is often dominated by quantitative methods, many researchers have violated these recommendations and often employed qualitative techniques from a post-positivist standpoint, thus minimising the contribution of these qualitative methods (Yardley & Bishop, 2007).

In the current study, a mixed-methods approach to research was employed to gain an understanding of the health behaviours exhibited by families, any

change in them, and the social relationships of the families involved in the study over time. Although that it is acknowledged that mixed-methods research is not, and should not, be treated as a 'one size fits all' approach to research, the researcher in this study endeavoured to combine the strengths of the selected methods in order to answer the research questions and in doing so minimise the limitations (Morgan, 2014). It was also hypothesised that this type of mixed-methods approach would be beneficial when attempting to capture information from a variety of populations and in an inclusive and pluralistic way (Burke Johnson & Onwuegbuzie, 2004).

Different approaches to mixed-methods research were implemented (including differing priorities and sequences) within three research phases of the study. The first phase involved initial generation and analysis of quantitative (structured interview) data, which was then used to inform the generation and analysis of qualitative data from semi-structured interviews and focus groups. Cresswell (2003) refers this approach as sequential explanatory mixed-methods research where both paradigms had equal priority and played an equally important role in addressing the research questions (see Chapter 5). Phase 2 and 3 of the study also involved mixed-methods research, however, a multi-phase combination timing approach was adopted since the multiple phases of research were conducted sequentially and concurrently (Ivankova et al., 2006). As detailed in Chapter 6 and 7, the quantitative dimensions of research were conducted at various time points: pre-intervention, post-intervention (Phase 2) and 12 months post-intervention (Phase 3). Qualitative research methods (semi-structured interviews and focus groups) were conducted mid-intervention, post-intervention, 6 months post-intervention and 12-months post-intervention.

Quantitative methods

A variety of objective quantitative measurements were employed in the current study, all of which provided information about the health behaviours of families alongside the efficacy of the PFP to elicit health behaviour change. The measures included: structured interviews, accelerometers and EMA

measurement involving the ‘real-time’ collection of health data from participants in their natural environment and which helped overcome subjective and recall issues of measures of health behaviours widely reported in the literature (Shiffman, 2009; Ainsworth & Macera, 2012; Steene-Johannessen, Anderssen, van der Ploeg et al. 2015). This approach also reduced the chances of participants under- or over-reporting particular behaviours and sought to provide the most accurate representation of PA, dietary, smoking and alcohol behaviours at various time-points. Mental well-being was measured via the validated WEMWBS questionnaire and produced self-reported quantitative data based on participants’ responses to questions about their mental well-being in the two previous weeks.

Qualitative methods

Semi-structured interviews and focus groups were employed throughout all three phases of the study. While the quantitative methods provide an essential insight into the health behaviours of families, when used in isolation, limit the ability of the researcher to examine why particular behaviours were exhibited and how effective the intervention was at changing health behaviours of the project participants. The use of semi-structured interviews and focus groups enabled questions to be asked which allowed for a deeper and more adequate exploration of the theoretical concepts of the behaviours captured by more quantitative measures, in particular, they can encourage interviewees to discuss their experiences via dedicated questions asked by the researcher as well as raising other issues relevant to them (Roulston, 2010).

In addition, semi-structured interviews and focus groups have a number of advantages over other types of methods including their ability to generate data quickly and at a relatively low cost while also being flexible. The use of these methods allow for direct interaction between researcher and research participants (both verbal and non-verbal) which allows for a greater understanding of the topics covered (Stewart & Shamdasani, 2015). The relatively open and flexible format of a focus group interaction can also lead to

the generation of rich unanticipated data, while communication between participants can allow topics to be discussed or built upon as a group while also encouraging individuals to disclose their experiences, regardless of how similar or difference they may be (Stewart & Shamdasani, 2015).

Focus groups can also be particularly useful for work with children, especially when used with child-centred research techniques such as the write and draw technique which has been described as an innovative method of research that involves generation of high quality data from young children (Pridmore & Bendelow, 1995). Driessnack (2006) also advocates the use of this type of child-centred research technique, suggesting that the act of drawing takes the focus away from the adult researcher and instead provides a way for children to share lived experiences. Semi-structured interviews and focus groups can also include the use of visual aids such as photographs or images, a concept which has been defined as 'photo-elicitation' (Harper, 2002). Harper suggests that using visual aids may help to ground and add meaning to the interviewer's questions, and prompt the interviewee to remember situations or experiences which they may have otherwise forgotten. In this study, therefore, semi-structured interviews and focus groups were selected to enable the researcher to investigate why particular behaviours were exhibited and whether the PFP helped change the health behaviours of families studied.

The People's Family Project (PFP) – overview and research design

In September 2013, an exclusive five-year partnership between EitC and Edge Hill University (EHU) was formally established, principally through the charity and the University's shared vision and objectives – to reduce health inequalities and overcome a number of social challenges many residents of Everton and Merseyside face on a daily basis. From the outset all staff within EitC were extremely supportive of the project and demonstrated an appetite for evidence of impact which could be generated through the PhD process. As an organisation, EitC also have over 27 years' experience of working with people from the local community to improve their health and well-being.

One programme at the heart of the partnership between EHU and EitC is the PFP, which was officially launched in February 2014. The project as a whole explored various indicators of the health of local families with pre-school and primary school age children, including: PA/sedentary behaviours, smoking prevalence, alcohol consumption, mental well-being and dietary quality. These behaviours are often complex and challenging, and a study of not only how the behaviours are exhibited, but also why individuals behave in certain ways, requires a similarly complex and flexible approach to the investigation. The PFP sought provide families with opportunities to enhance their understanding of health and make positive changes to their health behaviours as discussed in more detail in subsequent chapters.

Project Setting and Background

The PFP was situated in the Everton district of Liverpool, a city located in north-west England along the eastern side of the Mersey estuary. The city is well known for its cultural history, architecture and its contribution to popular music, performing and visual arts. However, poverty affects many in the city, including 25,300 children, which equates to 32% of the population (DCLG, 2015). Additionally, data in 2015 still identified Liverpool as one of the five most deprived cities England, with 45% of neighbourhoods across the city as being classified as within the 10% most deprived nationally. There is also significant inter-city variability related to deprivation, with many of Liverpool's small Lower Super Output Areas classed amongst the most deprived within the UK (DCLG, 2015). The Everton Ward, located to the north of the city centre and the catchment area for the PFP, is one area affected by this: 97.6% of its 15,000 residents are classified as being amongst the 5% most deprived nationally, and 84.5% classified in the most 1% deprived in England.

Almost one-half of Everton's population (47.3%) have no formal qualifications and just 11.4% have degree level qualifications (DCLG, 2015). The current out-of-work benefit rate in Everton is 32.6%, which is significantly higher than the Liverpool average (18.6%) and over three times the national rate (10.6%). The average household income across the ward is £21,441, which is

significantly lower than both the Liverpool (£29,373) and UK average (£36,172) (Liverpool City Council, 2015). The 2015 Health Profile for Liverpool (Public Health England, 2015) demonstrates that the health of people across the city is generally worse than the England average but the average life expectancy for those living in Everton is 75.5 years compared to 83.9 years in Liverpool's most affluent Ward (Church), and a national life expectancy of 81.3 years (Public Health England, 2015).

While there are no detailed health statistics for the Everton ward specifically, prevalence of adult obesity across Liverpool (25.9%) is higher than the national average for England (23.0%). The proportion of physically active adults in the city has been recorded as 49.5% compared with the national average of 56.0% while results of the Active People Survey (Sport England, 2015) demonstrate that in 2014, 35.8% of adults aged 16 years or older engaged in moderate intensity sport for at least 30 minutes once per week nationally, compared with 27.4% across Liverpool. The number of adults smoking across the city is also higher than the national average and as a result smoking related death rates are also high. Early death rates for heart disease, stroke and cancer are significantly higher than the national average.

These data provide clear evidence of the significant levels of deprivation and poor health experienced by the target population of the PFP, which was designed to engage and work with families in the Everton ward over an extended period of time. More detail about the components included in the three phases of research presented in the subsequent chapters, but before considering the results of the study, it is worth briefly outlining my role as a researcher in the PFP.

Involvement-detachment

While arguably researchers always enter a field of research with certain preconceived ideas or opinions, in the qualitative research paradigm it has been suggested that researchers need to

> increasingly focus on self-knowledge and sensitivity; better understand the role of the self in the creation of knowledge; carefully self-monitor the impact of their biases, beliefs, and personal experiences on the research; and maintain the balance between the personal and the universal. (Berger, 2015: 220)

The use of reflexivity is thus increasingly regarded as an important process through which to manage the role of values in research, and particularly the relationships between the researcher and the researched (Bradbury-Jones, Sambrook & Irvine, 2007; Gemignani, 2011).

One approach to the social scientific study of the role of values in research has been that of Elias who approached the traditional dichotomous debate between objectivity and subjectivity (Mansfield, 2007) in terms of degrees, or balances, of involvement and detachment (Dunning & Hughes, 2013; Elias, 1978; Perry, Thurston & Green, 2004). In particular, Elias (1978, 1987) argued that is neither possible, nor indeed desirable, for researchers to be wholly involved (conventionally termed 'subjective') or wholly detached (traditionally defined as 'objective') from their social worlds and the participants in their research studies. He argued instead that there is always a balance of emotional involvement and detachment present in virtually all human behaviour, though this varies in type between different groups (Elias, 1978, 1987).

For Elias (1987), a central tension facing researchers, then, is the ability to combine their emotional involvement with a critical degree of detachment from their subject matter, and from the participants whose lives they are investigating (see also Perry et al., 2004; van Krieken, 2001). This approach, he argued, is central to understanding 'how to achieve a "valid" knowledge of society whilst investigating it from within' (Kilminster, 2004: 26). In other words, obtaining an optimum balance between involvement and detachment (Elias, 1987) in all aspects of the research process is critical, among other things, for developing adequate explanations of social relationships between different groups (e.g. parents and children), of sensitive research topics requiring

significant researcher empathy (Perry et al., 2004), and of researcher-participant relations which are central to investigations such as that reported in this thesis.

In the present study I was directly involved in not only the set-up and design of the PFP, but also in the delivery of the intervention itself. In particular, I played a leading role in the operational management of the delivery team (approximately six internal EitC staff members, seven from external organisations and a team of 12 volunteers), and led both the social coffee mornings and children's parallel health sessions. I was responsible for both quantitative and qualitative data collection throughout the project, with a number of undergraduate student volunteers also assisting with the research set-up (e.g. passing out/collecting in accelerometers during events and setting up the EMA text message service). My role as researcher-practitioner meant I was able to establish a strong relationship with all participants in the study, spending around 80 hours delivering sessions across a 12 week period. The challenge in the current study was to strive for an appropriate balance of involvement-detachment at various stages of the research (and intervention delivery) process (Elias, 1987). The following sections seek to provide some examples of how this worked in practice.

In the first phase of research, which involved generating both quantitative and qualitative data related to the backgrounds and health behaviours of families living within the Everton area, I entered this formative phase of research with initial opinions or bias about the types of families I was expecting to come across. Some of this was based on previous experience of working with (predominantly male) parents and children across Liverpool through a previous research role. However, I was also influenced by my awareness of the deprivation levels and health profiles and link between these two elements due to engagement with existing literature. However, the design of the research with information gained through the structured interviews enabled me as a researcher to structure the interview questions asked in the semi-structured interviews around the data as opposed to being led by my own biases. However, particularly during the early stages of an interview I was

more involved, principally when trying to establish rapport and demonstrate empathy with the participants who are often reluctant to engage with other, more traditional health services. The development of various drafts and versions of the programme theory models also allowed me to be up front and aware of my own perceptions, however sharing and refining these models with my supervisory team and EitC staff also allowed my analysis and opinions to be challenged.

During the 12-week intervention period I was much more involved with the research participants, as I often I participated in or observed sessions which were delivered by EitC staff, alongside conducing weekly social coffee mornings. Due to my high level of involvement with the intervention sessions, at this point I could have been classified as an 'insider' (Dobson, 2009). It has been suggested that the 'insider' has the ability to generate more in-depth and revealing data studying first-hand the 'environment, problems, language, rituals and social relationships of a group of people' (Brannick & Coghlan, 2007:64). However, during periods of data generation I was aware of this involvement and made attempts to detach myself, particularly when conducting interviews and focus groups. This was also important during data coding, however working as part of a research team and reviewing/discussing data, coding and themes with my supervisors was a useful process. Participants, particularly those who featured in the case studies were also encouraged to read and review my interpretation of the data generated through interviews at various stages.

Ethical approval

Ethical approval for this PhD was received as follows:

Study Phase	Research Ethics Committee	Reference number	Date
1	Edge Hill University, Department of Sport & Physical Activity Research Ethics Committee	SPA-REC-2013-0309	02/12/2013
2 & 3		SPA-REC-2014-293	16/07/2014

Chapter 5 : Phase 1 – PA and Family Life: A Case Study of Everton Families

Introduction

Phase 1 of the research reported in this thesis involved formative-based data generation into family life in Everton. This approach helped provide an insight into family life and PA behaviours amongst local respondents which were used to inform the design and development of the PFP. In particular, this phase sought to address the following questions:

1) What is the relationship between PA and other health behaviours amongst families in the Everton area, and how can these be explained?

2) What is the relationship between family background and engagement in PA and other health behaviours, and how can these be explained?

3) What type of family-based health intervention would be appropriate to be designed and implemented for families living in Everton?

The concept of formative research was initially introduced within an educational setting, but has recently been regarded more widely as an evaluation or approach to research 'which has been designed to provide information that will help to change or improve a programme or policy, either as it's being introduced or when there are existing problems with its implementation' (Ritchie & Lewis 2013:43). A number of researchers have advocated the use of formative research before intervention implementation, particularly research investigating the views of potential participants. Mackintosh, Knowles, Ridgers et al. (2011) suggest that gaining an insight into the constraints on and facilitators of PA from a range of individuals (e.g. parents, children and teachers or instructors), is essential to the design of a successful PA-based intervention. Bauman and Nutbeam (2014) also highlight the importance of gaining an understanding of the target population or

community through formative research, and suggest that engaging with potential participants during the planning stages of a health promotion programme helps to identify people's needs, and, when used effectively, enables the development of the most appropriate intervention using the most appropriate methods and materials.

The lives and health behaviours of Everton families

To promote the project and gather formative data, families living within a one-mile radius of the club's football ground – Goodison Park – were invited to attend a series of family fun day events (with an initial emphasis placed on family fun as opposed to health). The first of these events was held at Goodison Park and the second held outdoors in the nearby Stanley Park. It was anticipated that holding an event within the stadium itself would attract families with an interest in football and an affiliation to Everton Football Club. However, the decision to hold the second family fun day in a more neutral location was taken on the basis that this would also help to recruit families who may not have had a keen interest in football and/or did not perceive themselves to be a 'sporty' family per se. 17 families attended the event held at Goodison Park, while around 50 families attended the outdoor event in Stanley Park (33 of which qualified for, and took part, in the research).

These events were organised to engage families - initially in the activity-based event, and to then to allow them to become involved in the project - in an informal way. The events also enabled more active participants to engage in the design and development of the intervention, and build trust in the project workers from the outset. The one-mile radius for the recruitment of families was implemented to focus on families living within the immediate vicinity of the football club. EitC previously identified families living within the target zone to be amongst the most deprived in the country, many of whom are classified as hard-to-reach, engaging in a range of unhealthy behaviours (e.g. smoking, sedentary behaviours and low levels of PA), and had some of the lowest life expectancy rates in Liverpool (Curran, Bingham, Richardson et al., 2014).

This insight was further supported by national data on the Index of Multiple Deprivation which incorporates seven independent domains or indicators of deprivation: employment, income, health and disability, education skills and training, crime, living environment and barriers to access and services. These data highlighted Liverpool as the most deprived local authority area in England, and Everton as the most deprived ward within the city (DCLG, 2010). Initial research in the area conducted by EitC also revealed a range of family structures within the area and a high proportion of single parent and non-nuclear families, many of whom were thought to benefit from the implementation of a health-based intervention programme. Local data showed that, as of May 2010, there were 24,510 lone parent benefit claimants in the City region, 52.9% higher than the national average (Liverpool City Region Child and Family Poverty Needs Assessment, 2010), and around 33.0% of children (26,000) were said to live in poverty in Liverpool (Public Health England, 2014).

Participants and recruitment

Each event was advertised to families in the target area in a variety of ways to maximize uptake and recruitment of families from a wide variety of backgrounds. This process was also informed by colleagues from EitC who drew on their experience and knowledge of families within the local area to shape the recruitment process. A number of strategies which have been shown to be effective in recruiting families within the Liverpool area such as the Fathers' Engagement Project (Houghton, O'Dwyer, Foweather et al., 2014) were used, alongside recommendations by researchers of other football-based community interventions (such as Pringle et al., 2013a, 2013b; Robertson et al., 2013). These strategies included: displaying posters and flyers around the community in areas where families were likely to be present, including: schools, nurseries, community centres/Children's Centres, sports centres, shops, hairdressers, cafes and markets. The use of advertisements on both the University and EitC websites, alongside a joint press release, and face-to-face methods of recruitment within the local area (including door-to-door marketing, marketing within a local school playground and marketing at

an open 1st team training session held at Goodison Park) were also central to the recruitment strategy. Project champions who were well known amongst the local community and had previously been involved in other EitC programmes also promoted the programme, primarily by word of mouth methods. This was a method which had proven to be valuable in the Everton area in the past and was recommended as a vital strategy by EitC staff.

Families who expressed an interest in the project, but did not live within the specified one-mile radius of the club, were permitted to attend but the recruitment phase took place primarily within a one-mile radius of the club. It can be suggested that this method of recruitment, which relies on families responding to a call for research, may have led to some form of sampling bias where families who are more aware of the benefits of engaging in PA and already have a desire to improve their behaviours related to PA and sedentary time were more likely to sign up to the research project. However, to minimise this bias, holding an event in the form of a family fun day with the support of EitC sought to shift the emphasis of the project to family-fun rather than health, and thus encouraged a wide range of families to attend.

Method

Structured interviews

Structured interviews are interviews in which all respondents are asked the same questions with the same wording and in the same sequence (Corbetta 2003). The primary aim of this type of interviewing is to ensure that interviewee's responses can be aggregated, which can only be achieved reliably when those answers are given in response to identical questions or cues. The questions used in structured interviews are typically closed with a range of potential answers for selection by the interviewee. One key advantage of this approach is that it reduces the potential for interviewer variability (misinterpretation or embellishment of the response) whilst also simplifying the process of analysing or coding the data, as respondents allocate themselves to categories during the interview process itself (Bryman,

2012). This type of structured interview is also advantageous over self-completion questionnaires as the interviewer can explain questions to the respondent, and, being asked questions by a sympathetic listener is potentially more rewarding for participants compared with the requirement of filling in a form for an anonymous researcher (Phellas, Bloch & Seale, 2011). This process also allows for the establishment of some initial rapport with the researcher which is essential for a longitudinal and multi-phased research study such as that presented in this thesis.

Upon attending the event, participants (N=61 parents from 55 family groups) were asked a series of questions about aspects of their biographies to obtain basic demographic data. All structured interviews were conducted by the researcher, and this method also provided an opportunity for rapport to be developed between the interviewer and participant before the subsequent semi-structured interview stage. The questions asked were closed, and in the first part aimed to gain insight into the demographics and structure of families living in the designated area. The second part of the interview explored: whether parents living in the area: (i) take part in PA, and if so how often; (ii) smoke, and if so the number of cigarettes smoked per day; and (iii) drink alcohol, and if so how frequently. The categories provided in the health behaviours sections were selected based on insights from appropriate existing questionnaires (e.g. the Global Physical Activity Questionnaire and the Health and Behaviour Survey) to provide an insight into the lifestyle choices of families in the area and the prevalence and frequency of these behaviours. The structured interview guide can be found in Appendix I.

Structured interviews - data analysis

Upon completion of the structured interviews, all answers were repeated back to the participants to ensure the biography sheets were completed correctly and parents were happy with the responses given. Once all interviews were completed, the data were then collated and checked for abnormalities followed by a process of descriptive frequency analysis used to describe and provide an insight into the study population. These insights were used to inform the

next stage of research (semi-structured interviews) and assist with the process of purposely recruiting families to explore the relationship between family circumstances and PA behaviours.

The relationships between demographic variables (e.g. marital status or employment status and health status) were also explored through individual Pearson's Chi Squared tests. However, since one of the key assumptions of the test is that at least 80% of the expected frequencies for each variable should be greater than 5, in some cases several raw categories were clustered into categories. In the case of employment, the categories 'unemployed', 'retired', 'homemaker', 'unable to work' and 'full-time student' were combined and re-labelled as 'unemployed', while 'full-time' and 'part-time' employment were simply classified as 'employed.' The frequency of health behaviours such as smoking, a number of frequency categories were condensed into two categories and subjected to Fishers exact test due to the relatively small sample sizes (i.e. if the individual indicated they do not smoke there will be no smoking frequency data for this individual). Statistical significance was set at $p<0.05$ and all analyses were conducted using SPSS version 22 (IMB Chicago, Il). Where significant associations were found in 2 x 2 contingency tables, odds ratios were also calculated in order to express effect sizes.

Semi-structured interviews and focus groups

Building upon the information generated in the structured interviews, 11 semi-structured interviews and family focus groups were then conducted with parents/families to explore their health and leisure behaviours and experiences of PA in more detail. Focus groups are a form of group discussion which are particularly effective for exploratory work and for securing depth of information about experiences in activities such as PA (Puchta & Potter, 2004). Where children/other family members were able to contribute to the interview process (particularly when there were older children and additional adults present), family focus groups were held rather than single parent interviews. This allowed all members of the family to discuss their individual and collective experiences about the topics discussed. In contrast to focus groups, semi-

structured interviews consist of a number of open-ended questions which have been developed in advance to allow a specific area to be explored, but also allow the interviewee to follow-up or expand upon additional areas of interest which may arise during the interview (Britten 1995).

Families from a range of different backgrounds (including a mixture of unemployed/employed parents with varying numbers of children) and from a range of family structures (e.g. single parent, married and blended family) who exhibited different health behaviours were purposively selected for this part of the research to shed light on their health behaviours. Information about the 13 parents who took part in semi-structured interviews can be found in Table 5.1 below. Visual prompt cards were used to help facilitate discussions around family engagement in sport and PA, with one card displaying images of different types of sports and the other focusing on physical activities (including more informal activities such as walking the dog or bike riding with children). These prompt cards were intended to help the participants think about a variety of physical activities which they may engage in, but which they may not regard as PA.

Three staff interviews with key practitioners from EitC who had significant experience of working with local families were also conducted (see Table 5.2) to determine what type of intervention families and staff would like to engage in (for adults and children) and what the local need was regarding practical issues such as the most appropriate times and days for sessions to be held. The interviews/focus groups lasted around 30-45 minutes each. A copy of the interview guides for both staff and parents can be found in Appendix II and III.

Semi-structured interviews – biographies

Table 5.1 Family biographies for parents who took part in a semi-structured interview/family focus group

Name(s)	Employment status	Age(s)	Marital Status	Dependent children	Currently engage in PA?	Additional comments
Sarah	Unemployed	22	Single	2	Yes - once a month	Sarah's children are not currently in contact with their biological father
Tina	Unemployed	28	Living with partner	1	No	Also has another child from a previous relationship but currently does not have access to that child
Nicky	Unemployed	30	Married	2	No	Married to children's biological father who is currently in full-time employment
Debbie	Full-time employment	26	Single	1	No	Living with parents and grandparents
Lauren & Dan	Unemployed Full time-employment	37 & 31	Living with partner	3	No Yes – once a month	Dan is parent to all three children but Lauren no blood relation. The children spend three nights a week living with their father
Naomi & Ben	Unemployed Unemployed	22 & 22	Single	2	No	Naomi and Ben are no longer in a relationship but attended the event and were interviewed together

Abby	Unemployed	26	Living with partner	3	Yes – twice a week	Abby and her partner got married in Summer 2014. Her husband is father to her youngest child while the two eldest children are children from a previous relationship however have no contact with their biological father
Tamara	Unemployed	33	Living with partner	7	No	Tamara's youngest child is fathered by her current partner while her other six children are from a number of different partners. All children see their biological fathers once per week.
Linda	Unemployed	44	Married	1	No	While Linda is currently unemployed, her husband is in full time work and she takes part in voluntary work twice per week
Daniel	Full time-employment	34	Married	3	No	Daniel and his wife have three children together. Their middle child has Downs Syndrome.
Faye	Unemployed	32	Married	3	No	Faye's children are from a previous relationship, however are not currently in contact with their biological father

Table 5.2 Staff semi-structured interview biographies

Name	Job Title	Number of years' experience working with local families
Mike	Health and Well-Being Manager	7
Chris	Community and Business Development Manager	7
Dean	Health and Well-Being Practitioner	6.5

Semi-structured interviews and focus groups - data analysis

Semi-structured interviews helped to complement the use of structured interviews by allowing the researcher to explore participants' views, feelings and experiences in greater depth (Bryman, 2012). That is, the strengths associated with each of the particular methods were combined to help explore family background, circumstances and experiences of PA in more detail than would be possible simply with the use of a single method. All interviews were recorded with permission from participants and transcribed verbatim for analysis. A software programme was used to collate all the interview transcripts (NVivo 2.0), followed by a manual thematic analysis. Braun and Clarke (2006) note the value of this type of analysis technique since it offers a flexible method of analysis that can be used to provide a rich, and potentially detailed, insight into the resultant data. This process consisted of a combination of inductive and deductive techniques. As a semi-structured interview format was used to generate the data, the interview questions formed the basis of some initial data themes. However, a subsequent inductive process of analysis also allowed for the creation of additional or emergent themes based on participants' responses which were then explored over the course of the analysis. Analysis did not take place until all transcripts had been collected and transcribed to allow participants experiences to shape the data analysis process.

The first stage of the process included familiarisation of the whole data set. All interview transcripts were read to gain an overview of the data set as a whole with notes made to assist in the preliminary identification of emergent codes, categories and themes (Bryman, 2012). All transcripts were then re-read and the coding process began, where interesting aspects of the data were identified and highlighted, with a particular emphasis on identifying themes or similarities and differences in the participants' responses (Ryan & Bernard, 2003). At the end of this phase, a list of codes was developed before being linked together to form themes which were then mapped out visually to consider the links between themes, subthemes and coded extracts (Ryan & Bernard, 2003). In some cases, themes were broken down into more specific sub-themes, while others were combined in clusters which identified commonalities within the themes. The themes were then reviewed and refined or combined (if appropriate) leading to the final stage of the process which included the naming of the themes and subthemes (Braun & Clarke, 2006). A summary model outlining all themes identified through qualitative analysis can be found in Appendix V.

Programme theory for intervention design

A theory-based approach to evaluation and intervention design – leading to the development of a programme theory (Coalter, 2013) - was adopted from the outset of the development of the PFP. Based on Pawson's (2006) concept of realist evaluation, this approach aims to not only describe and explain the mechanisms which underpin the intervention, but also use theory to help structure the evaluation itself:

> 'Theory-based evaluation allows an in-depth understanding of a working of the program or activity – the 'program theory' or 'program logic'. In particular it need not assume simple linear cause-and-effect relationships...By mapping out the determining or causal factors judged important for success, and how they might interact, it can then be decided which steps should be monitored as the process develops, to

see how well they are in fact borne out. This allows the critical success factors to be identified.'(World Bank, 2004:10)

Developing a relevant programme theory approach was intended to help identify the processes by which any changes to the values, attitudes and behaviours of the families (particularly the parents who engaged in the PFP), changed (Coalter, 2013). In doing, so this approach was intended to develop a greater understanding of which elements of the PFP worked, in what circumstances, and with which participants during the course of the intervention (Coalter, 2007).

A six-step model (Saunders et al., 2005) was adopted to produce two independent models; the first based on insights from the research team, and the second from the perspective of EitC staff. As can be seen from Figure 5.1 below, steps one to five included: a description of the programme, a description of what constitutes complete and acceptable programme delivery (i.e. programme outputs), the development of a potential list of questions, determination of methods and consideration of programme resources, context and characteristics.

Initially, these concepts were informally discussed with the programme managers and research team, before data from the staff focus groups and the structured and semi-structured participant interviews were analysed to produce two draft versions of the process evaluation model. These models mapped out:

1) inputs (recruitment and participant characteristics);
2) outputs (physical activity and health, social and family relationships and community);
3) impacts and outcomes for families involved.

The EitC staff version also contained an additional EitC staff outcomes section.

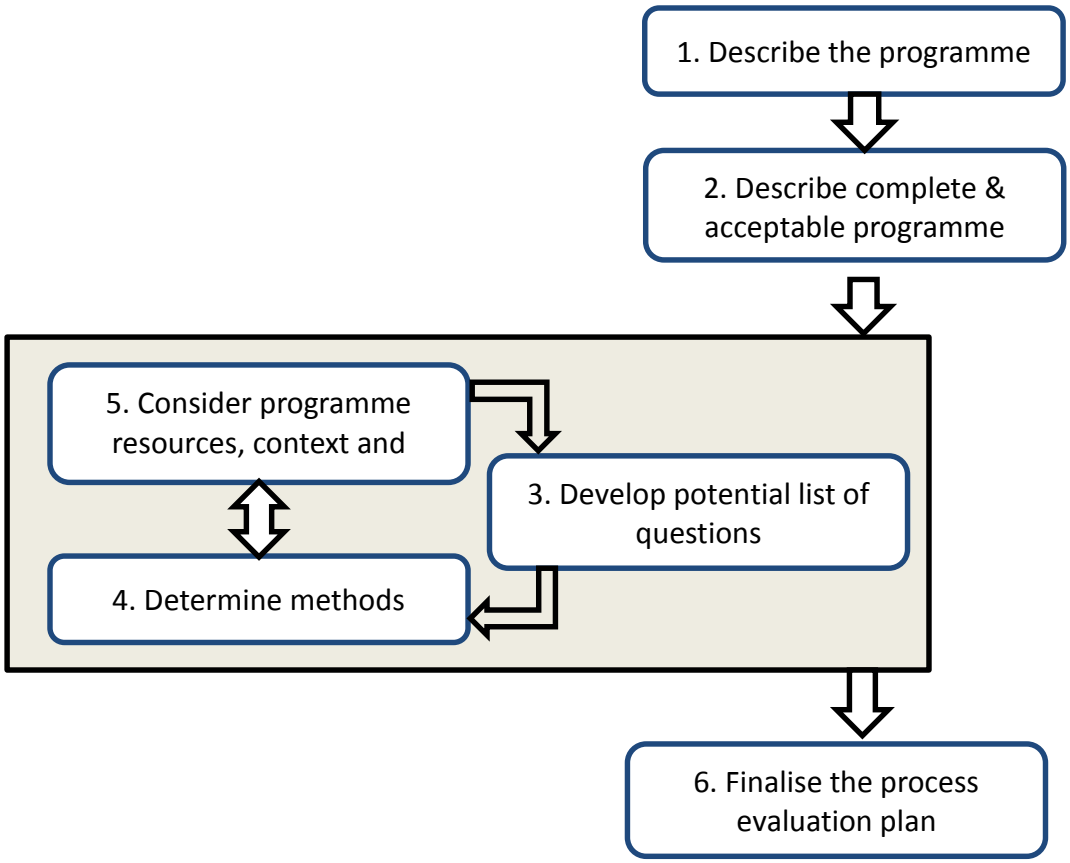


Figure 5.1 Steps in the programme theory development process

Following the creation of these models, an additional focus group was conducted between the research team and two key members of EitC management team who were directly involved in the design, implementation and delivery of the PFP. During this, participants were asked to provide comments and amendments on their version of the model. A revised version of the EitC staff process evaluation model was then produced, completing the final and sixth step of the process. Copies of all programme theory models and drafts can be found in Appendix IV.

Phase 1 results

This section includes results from data generated by structured interviews conducted with all parents who attended one of the family fun day events, or, who later signed up to the project through a friend or family member (N=61 from 48 families). Qualitative data based on the most common themes and sub-themes evident in questions about their personal characteristics and

health behaviours of the participants (N=13 from 11 families) are also presented. Within the family focus groups/parent interviews, emphasis was placed upon gaining an understanding of the health behaviours and current and past leisure activities of parents themselves rather than their children. However, where appropriate, family-based or child-focused activities were also explored.

Family background information

70.5% of the sample who engaged in Phase 1 were female and 85.2% indicated they had no disability/long-standing illness. Therefore, these demographic variables were not subjected to any cross tabulation analysis. The number of dependent children parents had ranged from 1 to 7, while the marital status of parents in the sample was mixed, with the majority classifying themselves as either single (34.4%), married (27.9%), or living with a partner (34.4%). The remaining 3.2% were either separated (1.6%) or widowed (1.6%). The highest educational qualifications possessed by parents can be seen in

Table **5.3** below, from which it can be seen that 19.7% had no formal qualifications, 34.4% had GCSEs, 36.1% were educated to college level (A level, BTEC or technical/trade certificate), and 9.8% had a university or tertiary level qualification.

Table 5.3 Highest educational qualification possessed by parents (N, %)

Qualification	Frequency	Percentage
None	12	19.7
GCSEs	21	34.4
A Levels	2	3.3
BTEC	8	13.1
Technical/Trade	12	19.7
University Qualification	6	9.8

64% of the sample were unemployed, 31.1% were in full-time employment and the remaining 4.9% were in part-time employment. The accommodation status of parents was in the main split between home owners (29.5%), those living in private rental properties (44.3%), and those who occupied housing association owned/registered social landlord properties (19.7%). 6.6% of the sample lived with a parent/or another family member.

The first question families were asked in the interview was about parental understanding of the word 'health' and what constitutes a healthy lifestyle. Eleven out of the 12 families interviewed discussed health purely in a physical sense, and made no reference to either mental or social health. For example, Daniel, a married father of three said:

> One is exercise. Two is eating healthily, and three is probably trying to maintain alcohol, and if you're into drugs, which I'm not, but some people do that. Just keeping yourself healthy.

The one parent who provided a more holistic definition of health, who also made reference to the mental and social dimensions of health was Naomi, a single unemployed mother who indicated her highest level of education was GCSEs.

Health and demographic associations

Employment status and health

As Table 5.4 indicates, there was a clear relationship between health and employment status. In particular, there was a significant association between employment and smoking status X^2 (1) = 6.49, p = 0.01 and based on the odds ratio, the odds of a person smoking were 4.42 times higher if they were unemployed. Further statistical analysis (two-sided Fisher's exact test), however, showed no association between smoking frequency and employment status (≤10 or <10 per day) p = 1.00). In addition there was a significant association between employment status and whether or not

individuals drank alcohol X^2 (1) = 4.74, p = 0.03. Based on the odds ratio, the odds of a person drinking alcohol were 5.5 times lower if they were unemployed. Further statistical analysis (two-sided Fisher's exact test), however, revealed no association between employment and: alcohol consumption frequency (≤once a week or <once a week) and employment status (p = 0.128). There was no significant association between employment status and whether individuals engaged in PA, X^2 (1) = 0.09, p = 0.77. Additionally, further statistical analysis (two-sided Fisher's exact test), showed no association between employment and PA frequency (p = 0.34).

Table 5.4 Frequency (N) of health behaviours (smoking, alcohol and PA) by employment status

	***Smoking**		***Alcohol**		**PA**	
	No	**Yes**	**No**	**Yes**	**No**	**Yes**
Unemployed	17	22	20	19	28	11
Employed	17	5	5	17	15	7

*denotes a significant association (P > 0.05)

While the quantitative data did not demonstrate a statistically significant relationship between employment status and parental engagement in PA, within the semi-structured interviews, the majority of activities parents discussed engaging in PA with their children were carried out locally. These activities also tended to be either free or low cost activities, with 'going to the park' being discussed the most frequently. One parent, an unemployed step-parent to two children, made particular reference to cost as a significant concern when choosing activities:

> Lauren: I think everything's about the kids, because you only get a certain amount of time the kids are with us, so it's all down to expense most of the time. And you've just got to try and go to the park, do something that's not going to cost, and obviously with the specials that

> thFe sports centre does with the baths and stuff, we just try and take the kids there and keep them active and keep them happy.

Reference to sedentary leisure behaviours was also made in all parent interviews, the majority of which were focused around screen/technology based activities for parents, such as watching the TV (N=11), watching films or DVDs, or going to the cinema (N=9), and using computers or smartphones for social media or sedentary gaming (N=7). Parents also talked about wanting to relax in an evening after their children have gone to bed. This appeared to be particularly the case for parents in employment such as Debbie, who said:

> Spare time at the minute's just really nothing....I think it's just because I have such a hectic work lifestyle, and just sometimes [I want] peace just putting my feet up. I know you think, 'well you actually haven't really done nothing that day', but sometimes [you] just [need] that little bit of quietness just to yourself time really.

In relation to diet, consuming takeaways or fast food once per week seemed common for families (N=7) and this was rationalised as a 'weekly treat' and described as 'normal'. Indeed, these families suggested that eating fast food once per week does not constitute a poor diet, as Abby suggested:

> We probably have a takeout probably once a week or something like that, but I normally get like a chippy, and get like the noodles, because they're egg noodles, so they're not that bad.

There also seemed to be little structure to some female parents' eating patterns which appeared consistent with the chaotic lifestyles of some of the families. Six parents claimed to skip meals due to forgetting to eat or not feeling hungry. In one case, employment was associated with meal skipping specifically, particularly when working irregular hours or engaging in shift work:

> Debbie: I'd say sometimes I do skip meals. I think it's more of when I'm going to work; I don't tend to have something of a morning. I do have

> something at dinner, but because I do eleven hour shifts, I don't tend to eat when I'm coming home, because I don't want to go to sleep on a heavy stomach. So I'd say in work I don't have a balanced diet really.

However, skipping meals also seemed to be common amongst unemployed parents including Nicky who said:

> And then I will clean the whole house from top to bottom, and then if I remember I'll eat some lunch, but if I don't, sometimes the alarm will go off. I'll just go and pick the kids up.

Regardless of employment status, parents discussed making a conscious effort to ensure children had regular meals as part of a relatively healthy diet, suggesting that while the diet and health of parents themselves were often de-prioritised in their chaotic lifestyles and alongside other priorities (such as caring for children or cleaning the house), they did value their children's health. This child-centred approach to health and well-being often led parents to neglect their own health and well-being and engage in other behaviours such as smoking and/or drinking alcohol, which were also undertaken for relaxation or stress relief.

> Naomi: It's my stress break, do you know? I just go off for a ciggie, and it chills me out a bit, but I know it's affecting my health, because I'm coughing and barfing all the time. But I do want to give up because of what my Nan's going through, through smoking. So I don't know. It's one of them. I know it's really affecting me inside, but …

Generally families acknowledged that this type of behaviour was bad for their health, but were frequently labelled as habits or addictions (N=5). Some parents expressed a desire to make positive health changes and improve their health and discussed attempts they had made to do so in the past (N=9), which is reviewed in more detail later.

Marital status and health

There was no significant relationship between marital status (single or married/living with partner) and any of the health indicators of smoking X^2 (1) = 9.37, p = 0.33, alcohol X^2 (1) = 3.66, p = 0.06, or PA X^2 (1) = 0.49, p = 0.48. However, the association between marital status and whether or not individuals drank alcohol was approaching significance. Based on the odds ratios, the odds of a person drinking were 3.38 times higher if the individual lived with their partner or was married. Table 5.5 shows the frequencies of health behaviours for the two groups according to marital status. Additionally, results from two-sided Fisher's exact tests further showed no associations between marital status and frequency of smoking (p = 0.43), alcohol consumption (p = 0.07), and PA (p = 0.57).

Table 5.5 Frequencies of health behaviours (smoking, alcohol and PA) by marital status (N)

	Smoking		**Alcohol**		**PA**	
	No	**Yes**	**No**	**Yes**	**No**	**Yes**
Single	11	12	13	10	15	8
Married/living with partner	23	15	12	26	28	10

Number of dependent children and health

There was no significant association between number of dependent children and smoking status, X^2 (2) = 5.2, p = 0.77. There was also no significant association between number of dependent children and whether parents engaged in PA, X^2 (2) = 2.60, p = 0.27. However, there was a significant association between number of dependent children and whether parents drank alcohol, X^2 (2) = 6.91, p = 0.03.

Table 5.6 Frequencies of health behaviours (smoking, alcohol and PA) by number of dependent children

	Smoking		*Alcohol		PA	
	No	**Yes**	**No**	**Yes**	**No**	**Yes**
None (non-biological parent)	6	4	1	9	9	1
One child	11	7	6	12	13	5
Two or more children	17	16	18	15	21	12

*denotes a significant association (*P* > 0.05)

When reference was made to PA in the semi-structured interviews, these were primarily family-based, particularly for the female parents and often included light and informal activities such as visits to the local park or walking the dog, and were conducted locally. Around half of all parents (N=6) (two of which were male) made reference to light intensity individual-based PA (e.g. walking). Five out of the six parents who discussed participating in individual PA were living with their partner/married, while the sixth parent was single with two children. These parents had varying numbers of children (between one and three) and both fathers interviewed together with two additional mothers) also talked about engaging in more structured and high intensity activities such as jogging or attending the gym. One father, Daniel, said:

> I probably go running for about twenty minutes over the week, and just general sort of exercises. Press-ups and sit-ups and things like that, just to try and keep my weight down.

Education and health

There was no significant association between education and smoking status X^2 (1) = 0.90, p = 0.34. Additionally, further statistical analysis (two-sided

Fisher's exact test), revealed no association between smoking frequency (≤10 or <10 per day) and education p = 0.70). There was also no significant association between education and whether parents drank alcohol X^2 (1) = 0.97, p = 0.33. Additionally further statistical analysis (two-sided Fisher's exact test), indicated no association existed between alcohol frequency (≤once a week or <once a week) and education, p = 0.26), though, there was a significant association between education and engagement in PA X^2 (1) = 6.24, p = 0.01. Based on the odds ratio, the odds of a parent engaging in PA was 4.39 times higher if they were educated to at least college level (see

Table **5.7**). The two-sided Fisher's exact test showed no association between PA frequency (>once a week or ≤once a week) and level of education (p = 1.00).

Table 5.7 Frequency of health behaviours (smoking, alcohol and PA) by level of education (N)

	Smoking		**Alcohol**		***PA**	
	No	**Yes**	**No**	**Yes**	**No**	**Yes**
GCSEs or less	16	16	15	17	27	5
Higher/further education	18	11	10	19	16	13

*denotes a significant association (P > 0.05)

Housing status and health

As it can be seen from
Table 5.8, there was a significant association between housing status (home owner/non-home owner) and smoking status, X^2 (1) = 5.03, p = 0.03. Based on the odds ratio, the odds of a parent being a non-smoker was 3.96 times higher if they were a homeowner, though the results of the two-sided Fishers exact test revealed no relationship existed between living arrangements and smoking frequency (p = 0.57). There was also a significant association

between housing status and whether or not parents drank alcohol, X^2 (1) = 6.24, p = 0.03. Based on the odds ratios, the odds of a parent drinking alcohol was 5.26 times higher if they were a homeowner, but no relationship between living arrangements and alcohol frequency was observed (p = 0.57). There was also no significant association between housing status and whether parents engaged in PA at all, X^2 (1) = 1.08, p = 0.30, or if they did, how frequently, p = 1.00.

Table 5.8 Frequencies of health behaviours (smoking, alcohol and PA) by housing status (N)

	***Smoking**		***Alcohol**		**PA**	
	No	**Yes**	**No**	**Yes**	**No**	**Yes**
Homeowner	14	4	3	15	11	7
Non-homeowner	20	23	22	21	32	11

*denotes a significant association (P > 0.05)

Constraints and facilitators to health

Numerous physical, psychological and social constraints and facilitators to health were also identified by parents. While it is recognised that these strands are interrelated concepts, they are presented separately here for analytic purposes and ease of presentation.

Physical health

Constraints on physical health

Parents noted a number of physical constraints on their health, the majority of which prevented them from engaging in PA at all more regularly than they did currently. Time was frequently (N=9) referred to as a barrier to health, and for females this was often as a result of childcare or domestic duties which they felt obliged to fulfil as parents (N=5). For single mothers with young children,

in particular, or mothers whose partners worked long hours, they often noted that engaging in PA was not possible due to a lack of childcare options.

> Sarah: It's a babysitter. I never get a babysitter. Their Dad's not involved with them. He chooses not to.

Two of the three fathers in the sample, and two mothers, also noted that it was often difficult to fit PA in around full-time employment and family life, as Ben suggested:

> It's just time, and having to work, because when I was working, I was doing seven till five working in a cafe all day, and I was knackered, and then football training was sometimes at six o'clock, so by the time I'd got home, got changed, I wasn't making it, so then I couldn't do it that way.

Around half of the sample (N=6) noted that an existing illness or injury (such as arthritis) prevented their engagement in PA. For four parents this related to an illness or injury affecting them personally including Linda, who said:

> Well, I do have arthritis on the left side, so it's limited what I can do, because I can't really use my hands, because I've got arthritis in my knees so it's limited what I'm meant to do.

However, for two parents, a specific health problem affecting their child prevented their personal engagement in some family-based physical activities:

> Daniel: My son's got Downs [syndrome]…It's just the fact that he's still in nappies, and he hasn't really got the overall strength to walk up steps. Like the football match. I can't take him.

A lack of fitness was noted as a barrier to PA for some female parents (N=3), particularly for those who smoke, including Faye who said: ‘Because I can't run. I get out of breath after two minutes’. Others noted (N=4) a lack of specific

skills as preventing them from taking part in PA-based activities, including Abby who said:

> I'm not good at football or tennis. I'm terrible. I can't kick a ball straight, and I was never good at tennis in school. I used to hate it. But I used to like playing netball and that when I was younger, but no, I don't know. I'm not really. The structured activities, they do my head in.

While fitness and skills were discussed as physical constraints on health for parents, they are also indicative of a lack of physical literacy, self-efficacy, and in particular efficacy expectations (beliefs related to the ability to carry out a particular behaviour), which prevented them from engaging in certain types of PA. This is a theme that will be explored in more detail later.

Facilitators to physical health

Despite the numerous physical constraints identified above, the majority of parents consistently noted the value of health throughout the interviews (N=8) and expressed a desire to be healthy. In relation to engaging in PA, Daniel said: ‘It just makes me feel healthier really, if I do exercise. I know that, you know, the blood pressure's coming down a bit.’ Weight loss or maintenance was, however noted as extrinsic motivation for engaging in PA for a number of parents (N=5), particularly in relation to weight loss: ‘I'm trying to shift baby weight still, so I've been exercising and that’ (Abby).

In summary, the key facilitators to physical health included an appreciation of the value of health and a desire to be healthy which was demonstrated by parents taking part in PA, and, in some case refraining from smoking or drinking. In contrast, time seemed to be a barrier to good health for all parents, alongside a lack of fitness, a lack of skills and ability, or the presence of an existing illness or injury for either parents or their children.

Psychological health

Constraints on psychological health

Five parents made reference to a lack of self-confidence as a key reason for why they did not engage in PA, particularly in public. For example, Lauren said: ‘I just don't like going to the gym or doing anything like that. I just don't feel confident doing anything like that’. In particular, it seemed to be a fear of social comparison, being judged or negatively perceived - known as social evaluative threat (Wilkinson & Pickett, 2010) - which caused a lack of self-confidence amongst these parents. Four out of five parents made specific reference to insecurities about their body or the way they look, which is symptomatic of social physique anxiety (Hart, 1989). For example when talking about why she did not currently engage in any sport or PA, Faye said: ‘with my body. The way my body is I don't think I would be able to go to a gym with lots of people around, and I'd just feel so self-conscious’. Linda similarly noted how embarrassment about her body discouraged her from engaging in PA any more:

> I used to [go swimming], but then one of the kids out of the school saw me in a swimming costume. He felt embarrassed, and I thought I can't go again in case he comes back.

A lack of intrinsic motivation to engage in purposeful PA was also described as a barrier for some parents (N=4). Two parents also expressed a similar lack of motivation around smoking cessation. In relation to PA, Naomi said: ‘I'm lazy. No, it's not that I don't like it. It's just...myself just being lazy, and just can't be bothered moving’. While others (N=6) discussed a lack of enjoyment in some physical activities such as going to the gym. Sarah said ‘I tried the gym. It wasn't for me. Basically to me it was still sitting down to me, like on a bike, on a treadmill, it's just walking and it doesn’t interest me’.

Facilitators to psychological health

Eight parents expressed enjoyment of some physical activities with the six female parents making specific reference to fun generated by their involvement in primarily unstructured and family-based activities such as swimming. However, the two male parents who referred to enjoyment in PA focused more on individual-based activities and the personal benefits these activities had for them. For example, one father, Ben said:

> It [PA] makes you feel better in yourself. You wake up and you're out sometimes and you've done a hard one you get pains in your muscles. You know it's for a good thing, it's not for being lazy, sitting round, and it helps you, because I get terrible cramp with sitting round, so I feel worse type thing, but you do feel better when you do sports or whatever.

When parents discussed other behaviours (N=9) they also expressed a wish or intention to change these behaviours such as engaging in more PA in the future and stopping smoking. In relation to stopping smoking, Nicky said:

> I've probably cut about twenty years off my life. It is bad, and it's bad for the kids. It's bad for all of us really, but we have had loads of stress and things, stuff like that, for the last five years it's been quite stressful through the family, with us being close, because we always take on one another's problems, you know, and we say, "Oh, we'll give up this week", and then something really bad happens that week, so it never seems to happen, so we could do with setting a date.

In summary, the key facilitators to psychological health were enjoyment of PA and for female parents the activities mentioned were family-based and undertaken for fun, while males made reference to more individual-based activities and personal enjoyment or achievement. Parents also discussed at length a desire to make improvements to their health, often in relation to the reduction of negative health behaviours such as smoking. The key constraints on health were focused around confidence and self-image, motivation and a

lack of enjoyment of some physical-based activities.

Social health

Constraints on social health

Much of parents' leisure time appeared to be spent with extended family members (such as their parents and siblings) who generally live within the same neighbourhood. A number of parents (N=6) also noted that constraints from others in their social networks (especially partners or family members) often encouraged behaviours such as smoking or drinking and made the process of stopping, or reducing, these behaviours more difficult. For example, when talking about her struggles with smoking cessation, Nicky said:

> There's a few smokers in our family as well, so it's more like a social thing, so when we get together it's like coffee, ciggies, cake. Like my parents, they've smoked for fifty years. They're not going to give up. They have no intention to, and it would probably do more harm than good now with their health... It's hard to say, "No, you can't come over", so we need to face a few things like that, but other than that.

Notably no reference was made to any positive role models for health throughout the interviews, suggesting that families lack sources of efficacy information in relation to health and PA.

Facilitators to social health

In all interviews parents suggested that having children had positively impacted on their health in various ways. Nine families talked about how having children had caused them to live more active lifestyles, or engage in more regular PA, including Abby who claimed:

> I probably do more PA now that I've got the kids than what I used to. Like actually walking places and going round the park with them. Before

> I had the kids I never used to do things like that, because it was more I spent time working.

Seven parents also noted they had reduced, or stopped, smoking or drinking since having children. When asked why she no longer drank alcohol, Tamara said ‘mostly because it doesn't fit in with the kids….It's just easier with my lifestyle not to drink’. Three parents also suggested that their diets had improved as a result of having children, with specific reference being made to increased fruit and vegetable purchase and consumption and a reduction in junk food. When talking about her four year old son’s diet, Debbie said: ‘he does have a healthy diet. I started eating properly, because he eats fruit. He’ll sit there and eat a raw carrot’. While not specifically recognised as an element of health per se by participants, nine participants indicated that they get out of the house more since having children. For example, Sarah discussed how ensuring her children had some stimulation outside of the home environment was a priority for her as follows:

> I just love outdoors. I love it myself, and with the kids, you see the difference in the kids when they're out in the park. You see how happy they are, and then you don't want to come home really, and they love all that, and then it tires them out as well, so they're definitely in bed at five.

Two parents also suggested that they wanted to be a good role model to their children and set a good example with their health or health choices, as in the following extract taken from an interview with Daniel:

> Now that I'm getting older I'm sort of more conscious of it, and I want to live for as long as I can, so now I'm sort of... When I was in my twenties I didn't really look at that, so now I'm thinking, well. I've got to be sort of healthier for the family to be growing up, and for us to be doing things together, and just to sort of give them sort of a path now or to give them role models, to say, "Well yes, he does exercise, and he does this, or he takes us swimming, or he gives us that activity".

To summarise, the key social facilitators to health were all related to the positive impact that having children had had on parent's health including: increased engagement in PA, a reduction of smoking/drinking, improvement in diet, and in terms of getting out of the house more. However, the social pressure or negative influences from family or close friends was also noted as the central social barrier to health.

Staff data

Staff provided an insight into the characteristics of the families living within a mile radius of the club and of whom they had previous experience of engaging in other EitC projects. They suggested that there was a high prevalence of non-nuclear families (especially single parent families) and often complicated home situations, such as multiple generations of families living in one household or large numbers of dependent children in the area. All staff suggested that, in general, the health of families living in the local area was poor, with a high prevalence of smoking, alcohol, drugs and sedentary behaviours and obesity. In relation to this point, Chris said:

> I don't want to make any sweeping statements, but the figures don't lie, in the fact that we have a lot of people in our immediate communities who have those lifestyle habits, and the mortality rates and the early death rates and stuff, as I said, the statistics don't lie in this area. And that has a lot to do with low activity levels and sedentary lifestyles.

Staff also identified a number of constraints on the health of local families and placed particular emphasis on the identification of external factors at a local or national level. In particular all three staff interviewed noted that the environment in the immediate vicinity of the stadium was poor: 'Locally, if you walk through the area, and what you see, it looks like a really rundown area, a lot of dog fouling locally as well, which again just adds to the whole image of the area' (Mike). However, in contrast to the participants' data, staff suggested that there were a range of positive local areas where families could engage in

PA, and also a variety of local shops which offer healthful food choices (e.g. fruit and veg shops) but also noted local facilities are often unused by local residents including families: ‘We've got this beautiful park opposite the stadium. You don't see many people using it.’ (Dean).

Chapter summary

This chapter introduced Phase 1 of the PFP, the methods used and outlined parent/family and staff data. These preferences of families and EitC were used to inform the design, delivery and implementation of the PFP, primarily through the development of programme theory models, which encapsulated participant characteristics and pre-intervention health behaviours. For example parents referred to a lack of time and in particular a lack of childcare options as a key barrier to engaging in individual PA, therefore a variety of adult only PA sessions were included in the outputs column of the model and offered as part of the PFP, with sessions for children being offered at the same time. Parents also discussed how a lack of self-confidence (particularly related to their appearance) would prevent them from engaging in PA in public. Therefore social coffee morning sessions were also added to the PFP timetable to allow parents to bond prior to engagement in PA sessions. Proposed impacts and outcomes resulting from family engagement in the PFP intervention were also incorporated into the programme theory models based on the insights gained from participants and staff including: new relationships between likeminded families, shared activities within families, better understanding of own health, understanding consequences of poor health choices and taking responsibility (outputs). Reduction in unhealthy lifestyle choices, increase in PA levels, improvements to health and strengthening relationships between EHU, EitC and local families (outcomes).

Chapter 6 : Phase 2 A holistic approach to family health: The PFP intervention and pre-post effects

Introduction

The primary objective of Phase 2 of the study was to deliver a 12- week family health intervention and assess the impact of this intervention on family health; details of which are examined later. This phase began by inviting all families who engaged with Phase 1, to participate in the intervention. This was advertised to families as an opportunity to engage with free fun family-based sessions which would begin during the school summer holidays (rather than a health intervention). As explained in Chapter 5, this approach was adopted on advice of experienced EitC staff and supported by literature investigating factors facilitating the engagement of hard-to-reach groups in PA and health-based interventions (e.g. Withall, Jago & Fox, 2011), where the emphasis is on fun and socialisation to maximise uptake and retention. The key research questions addressed in this phase research were:

1) How effective is a community-based intervention – known as The People's Family Project – designed and delivered with Everton in the Community at changing short-term family health and physical activity behaviours?

2) What are the core concepts and mechanisms which impact on behaviour change and family health within the context of a health-based intervention?

Method

The PFP launch event

Families were initially contacted via telephone and provided with information about the intervention sessions on offer, the specific research components

linked to this phase of the project, and invited to attend a project launch event. Interested families were then sent, via post, a copy of the research pack including an interest reply slip which outlined how many family members would be willing to take part in the research; a participant information sheet; a consent form and a draft session timetable (see Appendix VI). While attempts were made to contact all families from Phase 1 using the same telephone number that had been used to send text message reminders ahead of the Family Fun Days, only 19 of 51 families (37.24%) were reached successfully (two no-longer lived in the area and therefore were no longer eligible or able to participate). In the lead up to the launch event, families were again contacted via phone around two weeks prior to the event to provide them with more information about the format of the day and given an opportunity to ask any questions about the research or session content. Families were then sent a final text message reminder 24 hours prior to the event to maximise attendance.

The launch event was conducted during the first week of the school summer holidays and families were encouraged to attend as a family group. Seven families attended this event and three families did not attend the event or become involved in the intervention despite seeking to facilitate contact and follow-up reasons for non-attendance/drop-out. A further four families did not attend the launch event due to other commitments, but met with the research team in the days following the launch event, and three other families were invited to the project over the next few days as friends of existing participants. This took the total number of families who participated in the pre-intervention research components to 14 (N=37 individuals).

During the launch event activities were on offer for children throughout the day, including: target-based football games and skills, group games and arts and crafts. Parents were provided with in-depth verbal and written instructions about all research elements, with particular emphasis placed on the first data collection period (pre-intervention) which began immediately after the launch event. Families were also provided with timetables and information about the sessions which would be on offer during the intervention and asked to

informally sign-up to sessions which were of interest to them. A number of quantitative measurements, which are detailed below, were conducted in the eight days immediately following the launch event before families attended any intervention sessions, and then immediately post-intervention after the sessions had finished.

Phase 2 pilot study

Due to the complex nature of the data generation methods during Phase 2, an initial pilot study involving all quantitative measures (EMA: diet, smoking and alcohol, accelerometer and WEMWBS) were conducted replicating the intended eight days of data generation. This provided the researcher an opportunity to generate, download and analyse data from seven participants including academic staff, administration staff and students from the Department of Sport and Physical Activity at EHU. While there were socio-economic differences between the pilot and study participants, particularly related to level of education (which ranged from doctoral level qualifications to A Levels/BTEC or equivalent), employment status and level of deprivation. Efforts were made to include population-specific language and participants who engaged in a wide range of health behaviours which would be reflective of eventual participants were selected. Pilot participants were asked to provide feedback on the practicalities of the research process and the completion of quantitative methods. This allowed for minor changes to be made to the structure of the EMA diet section. In particular, as feedback indicated that some of the questions were repetitive, a number of additional food types were also added (e.g. portion of chocolate/chocolate bar and cordial was divided into standard cordial and no added sugar/sugar free cordial). Minor changes were also made to the belt wear records for ease of completion.

Primary quantitative measures

Accelerometer (PA) data

All family members who signed up to participate in the intervention and attended either the project launch event or met with the research team on a one-to-one basis (N=37, from 14 families) were provided with a wActiSleep-BT wireless accelerometer monitor to measure body movements in three orthogonal planes: vertical, mediolateral and anteroposterior. These devices were used to capture objective measurements, including: energy expenditure, MET rates, steps taken and physical activity intensity. The UK Chief Medical Officers' guidelines for PA (Department of Health, 2011) recommends that adults (19-64 years) should aim to be active daily and undertake at least 150 minutes of moderate activity in bouts of 10 minutes or more, or 75 minutes of vigorous intensity exercise across the week. Furthermore, adults should undertake PA which aims to improve muscle strength on at least two days a week. Children and young people 5-18-years-old should engage in moderate to vigorous PA for at least 60 minutes per day and minimise the amount of time spent being sedentary, while 'children of pre-school age who are capable of walking unaided should be physically active daily for at least 180 minutes, spread throughout the day' (Department of Health, 2011:20).

All devices were fitted by a member of the research team to ensure correct placement on the non-dominant hip, correct belt sizing and maximum comfort (Cleland, Kikha, Nugent et al*.,* 2013). Participants were asked to wear the device at all times during the waking day (other than when washing/bathing or swimming) for a period of eight continuous days and the devices recorded PA levels every five seconds. The selection of the eight-day period was based on previous literature and suggestions (e.g. McClain and Tudor-Locke, 2009) that data should be generated over an average week, with an extra day being added to enable the first measurement day to be excluded from the data set to account for potential reactivity. Each participant was also provided with a belt wear record booklet to record time out of bed, time in bed, and any potential non-wear periods (including reasons for this) to cross-reference

against accelerometer recorded data. In the case of young children, parents were asked to complete the record on the child's behalf.

Accelerometer data were reduced and analysed using ActiLife (Version 6 11.9). Valid wear time was defined as a minimum of three days, with at least nine hours (540 minutes) of recorded wear time per day. Non-wear time was defined as 20 minutes of consecutive zeros and where possible this was cross-referenced against the participant's log diary. As can be seen from Table 6.1, activity was classified using Troiano, Berrigani, Dodd et al. (2008) cut points for adults, since these would differentiate sedentary time and light activities, and because they were initially derived from a combination of laboratory and field based studies to maximise ecological validity. Evenson Children (2008) cut points were used for children aged 6 and above , while Evenson Children (2008) cut points were used for sedentary and light activity and Pate Pre-school (2006) cut points for moderate and vigorous activity, respectively for children aged 3-5 years (Janssen, Cliff, Reilly, et al. 2014).

When water-based physical activities, for which the accelerometer could not be worn were recorded in the log-diaries (e.g. swimming lessons), the Compendium of Energy Expenditures for adults (Ainsworth, Haskell, Leon et al., 1993) and youth (Ridley, Ainsworth & Olds, 2008), alongside the recorded length of time spent in that activity, were used identify the METs for this activity, these were subsequently added to the data files prior to analysis and average minutes of moderate to vigorous PA (MVPA) and total PA (LMVPA) were also calculated per day. Average weekly values were then calculated for all participants who met the minimum requirements for wear time (>540 minutes per day for at least 3 days for children, >540 minutes per day for at least 7 days for adults) and these values were then standardised to obtain hourly values, to permit comparison and statistical analysis. Average number of bouts of sedentary time, which can be defined as sustained periods of low counts (>10 minutes), were calculated. Bouts of light, moderate and vigorous activity (>10 minutes) were calculated for adults only, followed by average time spent per bout and total daily time in bouts using the aforementioned cut points.

Table 6.1 Cut points for sedentary, light, moderate and vigorous activity for pre-school aged children, children aged 6+ and adults (counts per minute/CPM)

Age range	Sedentary	Light	Moderate	Vigorous
Pre-school (3-5)	0-100 CPM	101-1679 CPM	1680-3367 CPM	3368-∞ CPM
Children (6+)	0-100 CPM	101-2295 CPM	2296-4011 CPM	4012-∞ CPM
Adults	0-99 Counts Per Minute (CPM)	100-2019 CPM	2020-5998 CPM	5999-∞ CPM

Psychometric test of self-rated mental well-being

Parents were asked to self-complete the full (14-item) WEMWBS, a widely used and validated (Lloyd & Devine, 2012) scale of well-being which focused exclusively on positive aspects of mental health (Tennant, Hiler, Fishwick et al., 2007), to cover most attributes of mental well-being, including both hedonic and eudaimonic perspectives for those over 16-years old (see Appendix VII). In line with suggestions from the authors, parents completed the scale mid-intervention (6 weeks in to the PFP) as well as at pre-and post-intervention time-points. The scale was scored by summing responses to each of the 14 items answered on a 1 to 5 Likert scale, where 1 is 'none of the time' and 5 is classified as 'all of the time' leading to a minimum scale score of 14 and a maximum of 70, with higher scores representing higher levels of mental well-being. There are no classifications or cut offs for this scale, however population norms for the UK are available for comparison. Overall scale scores were subject to statistical analysis as detailed later.

Ecological Momentary Assessment (EMA)

During the launch event, parents' phones were connected to an automated text message service to send text message prompts to their devices. The text messages were sent four times a day at specified times (standardised quartiles split throughout the waking day: 7am-11am, 11am-3pm, 3pm-7pm, 7pm-11pm). The messages were always sent four hours apart, however the timing of the first prompt was different for each of the eight-day period. These messages prompted parents to complete EMA diaries to capture a number of health behaviours, including: diet, smoking and alcohol consumption each period. These measures assessed the health behaviours of participating parents (but not their children). The health behaviours of children were not recorded because the respondent burden of completing the task was already high and could be subject to a large margin of error (particularly for a number of parents with multiple young children). Participants were not informed about what time they would receive the prompts, and were encouraged to complete the survey questions as soon as practically possible (completion times were recorded) and were given a number of ways in order to do so. These were:

1) Clicking on the link to the survey from the text message and completing it online using a smartphone.

2) Copying the link and completing the survey online using an alternative electronic device (e.g. laptop, computer or tablet.)

3) Completing a paper version of the questionnaire provided by the researcher.

Participants were advised they could select their preferred method depending on their needs or preference at the time of completion. The survey was split into three sections (diet, alcohol and smoking) which are detailed below. A full version of the EMA questions can be found in Appendix VII.

Diet

During the first section of the survey, participants were asked whether they had consumed any food or drink during the last four hours. If the answer was 'no' then the participant was prompted to move on to the next section. If the answer was 'yes', they were further prompted to respond to questions in five key sections: fast food/prepared meals, fruit and vegetables, cereal bread or dairy, snacks and drinks and meat/fish. For each of the sections, a number of different food types were listed and the participants were asked to select from a drop down box (using the online version) or circle the correct number of portions of that food or drink type which they had consumed (from one to ten or more). In the fast food section only, a box was also provided to indicate the type of oven ready meal or takeaway consumed. The format and categories for this section were selected based on the 7-day recall, 20-item Short Form Food Frequency Questionnaire (SFFFQ) (Cleghorn, Harrison, Ransley et al., 2016), which has been used in Health and Lifestyle surveys adopted in the commissioning of NHS Healthcare in the North West and Yorkshire and Humber regions. The SFFQ is considered to be a practical alternative to more traditional, lengthy food frequency questionnaires or food diaries such as the Block Questionnaire (Block, Woods, Potosky et al., 1990) and has been validated by the authors and shown to have fair agreement with a full version of a food frequency questionnaire (Cleghorn et al., 2016).

Diet data for each participant was included in the analysis when a complete data set for all four time-points during the day was achieved, and the participant responded within 60 minutes of the text message prompt being sent. This timeframe was used since any responses after this cut-off is not real-time data and would have been reliant on recall and may have been subject to bias (Stone & Shiffman, 2002). Scoring was conducted in line with the recommendations of the SFFFQ, whereby daily dietary quality scores for fruit, vegetables, fat and non-milk extrinsic sugar (NMES) intake (World Health Organisation, 2004) were developed (as important indicators of a healthy and balanced diet).

Nutrient analysis software Microdiet V2 (Salford: UK) was used to calculate grams of fat and non-milk extrinsic sugar within each food type, and for each day of complete data, was then totalled according to the foods consumed. Scores of 1-3 were then allocated for each component, with a score of three corresponding to the UK dietary recommendations for that element. UK recommendations in relation to diet suggest that all individuals should consume a balanced diet that should contain all the major food groups including: plenty of starchy foods e.g. pasta or bread (wholegrain where possible), at least five portions of fruit and vegetables per day, some protein rich foods e.g. meat or eggs (including oily fish at least once per week) some milk and dairy products (low fat where possible) and small amounts of saturated fat, salt and sugar (Food Standards Agency, 2007).

These scores were then added together to provide an overall daily dietary quality score from 4-12. Valid days of data were averaged to calculate average daily dietary quality scores. Oily fish was also included as an important component of diet, however as the recommendations for oily fish are weekly as opposed to daily, dietary data for all days and time points were studied for the presence of oily fish regardless of valid inclusion. This element was added after the weekly average score had been calculated, leading to a final overall dietary quality score of between 5 and 15. Overall dietary quality scores were subjected to statistical analysis as detailed below.

Table 6.2 Components which make up the total dietary quality score and scoring information

Score	1	2	3
Fruit	0 servings/day	1 serving/day	>= 2 servings/day
Vegetables	<= 1 serving/day	1-3 servings/day	>=3 servings/day
Fat*	>= 1 ½ x UK recommendations (127.5g/day)	1-1 ½ x UK recommendations	<= UK recommendations (85g/day)
NMES	>= 1 ½ x UK recommendations (45g/day)	1-1 ½ x UK recommendations	<= UK recommendations (30g/day)
Oily fish	No intake		1 serving

*Recommendations for fat were based on 35% of total energy of the Estimated Average Requirements for women and men: 9351 kJ/d (2235 kcal/d)

Primary variables quantitative data analysis

Data were analysed using IBM SPSS Statistics Version 22 (IBM Corporation, New York) and statistical significance was set at $p \leq 0.05$. All data variables were assessed for outliers (>2 SD) using boxplots prior to the commencement of any statistical analysis. For diet and PA data, normality was assessed using the Shapiro-Wilk test of normality where significance equates to the data deviating from normal distribution. Where data was considered to be normally distributed, pre-post differences were assessed using paired (dependent) t-tests. However, where data violated the assumption of normality, a Wilcoxon Signed Rank test (the non-parametric equivalent) was used. All data were also assessed visually using Q-Q plots. As WEMWBS data also included an additional mid-score, graphical methods (Q-Q plots and histograms) were used to assess residual normality and ensure model adequacy. Between-group differences (pre-, mid- and post-) were tested using ANOVA.

Effect sizes (Hedges *g*) were calculated for parametric data using Cohen's formula $M_1 - M_2 / s_{pooled,}$ where $s_{pooled} = \sqrt{[(s_1^2 + s_2^2) / 2]}$ (Cohen, 1988) plus

an adjustment for sample size $\left(1-\frac{3}{4(n_1+n_2)-9}\right)$, with 0.2 equating to a small effect size, 0.5 being classified as a medium effect size, and 0.8 indicating a large effect size. Hedges' *g* is a measure of effect size which corrects for biases due to small sample sizes. Where statistical significance was found for parametric data, confidence intervals at the 95% confidence level were also reported. Effect sizes emphasise the size of the difference between groups or measurements rather than confounding this with effect size (Coe, 2002). To quantify clinical or real life significance of the intervention (PA, mental well-being and diet), *Q* values which can be defined as 'the probability that the true effect of the intervention is at least as great as some minimum worthwhile effect' (Froehlich, 1999:235) were also calculated. This approach was also adopted due to the small sample size and increased likelihood of a type II error occurring. The inclusion of this type of novel statistics allows a greater consideration for whether the intervention had an impact on the health behaviours of individuals and small groups of families, and is not dependent on statistical power as with more traditional statistical significance testing.

Three steps were followed to calculate Q values for each variable:

1) Where possible a minimum worthwhile effect (MWE) was defined, or acceptable standard deviations were set.

2) A test (*t)* statistic was derived by calculating the difference between the minimum worthwhile effect and the measured effect, divided by the standard error of the effect size.

3) The one-tailed probability for the test statistic was calculated using an online t-distribution calculator (http://surfstat.anu.edu.au/surfstat-home/tables/t.php).

In relation to mental well-being, previous literature has established that an improvement of 0.5 units on each item of a Likert scale (such as WEMWBS) would equate to an improvement deemed important by people, which would

equate to an overall change score of seven on the same scale (Jaeschke, Singer & Guyatt, 1989). However, Maheswaran, Weich, Powell et al. (2012) have recently suggested that a WEMWBS score of three or more could be considered as important, therefore MWE scores of three, four, five, six and seven, respectively, were calculated for mental well-being. For PA and diet there is no empirical evidence for a robust MCID anchor (MWE values), and therefore 0.2 standard deviations (SD's) of the grand mean has been proposed as an acceptable MCID threshold (Wong, 2013). SD values of 0.2, 0.4, 0.6. 0.8 and 1.0 were therefore calculated for these variables.

Secondary (contextual) quantitative variables

Information on smoking and alcohol was also provided as part of the EMA data generation and these variables were classified as secondary study measures on the basis of the low number of adults who participated in the intervention, who drink alcohol on a regular basis, are smokers and who met the minimum requirements for inclusion in the analysis (alcohol - N=5, smoking - N=3). Therefore, it was not deemed appropriate to subject these data to statistical analysis procedures, however descriptive and frequency analysis was conducted and subsequently used to provide additional context to the related health behaviours of the families.

Alcohol

During the second section of the questionnaire, participants were first asked if they had consumed an alcoholic drink in the last four hours. If the answer was 'no', no further questions related to alcohol were provided and the participant was prompted to move onto the next section. However, if the answer was 'yes', a number of different types of alcohol were listed, including: pints/half pints of beer, shandy, larger, cider, stout etc., small bottles of beer, bottles of alcopops, single measures of spirits, double measures of spirits, small glasses of wine or champagne (125ml), medium (175ml) or large (250ml), single glasses of fortified wine, sherry or port or shots of alcohol. Participants were asked to indicate, first, the number of each alcohol type consumed (from zero to 20 or

more), followed by the brand of that particular alcohol type. Units of alcohol were summed per day and per week for each participant, together with the calories consumed. Average daily units were also calculated for valid days consisting of four complete survey responses.

Smoking

Within the smoking section, participants were firstly asked if they had smoked within the last four hours. If the answer was ‘no’, they were prompted to move on to the fourth and final section, if their answer was ‘yes’ they were asked to select the number of the following they had smoked: manufactured cigarettes, hand rolled cigarettes, hand pipes, cannabis cigarettes and electronic cigarettes, and also indicate the brand (manufactured, hand-rolled and e-cigarettes only) and strength (e-cigarettes only). The number of cigarettes, pipes and e-cigarettes were summed first of all per day and then per week for each participant. Average daily cigarettes (including e-cigarettes, pipes etc.) were also calculated for valid days consisting of four complete survey responses. Since few adults currently smoked (including e-cigarettes) regularly and met the minimum requirements for inclusion in the analysis (N = 2), it was not deemed appropriate to subject these data to statistical analysis procedures. Descriptive and frequency analysis was again conducted to provide further contextual information on the health behaviours of the families.

Mid-intervention qualitative research

Semi-structured interviews/family focus groups

Family focus groups were conducted with families half way through the intervention period (after six sessions). Families were asked about how they felt the sessions were going so far (which enabled the researcher to make any minor amendments to the sessions in accordance with family feedback), their experiences of the intervention and its initial impact on health and family life. Children were encouraged to answer any questions within the focus group, however write and draw techniques were adopted to encourage children to

participate actively in the research process. Driessnack (2006) advocates the use of this type of child-centred research technique, suggesting that the act of drawing takes the focus away from the adult researcher and instead provides a way for children to share lived experiences. Children were asked to draw two pictures: the first a picture about the PFP and the sessions at Everton, and the second about when they wore their 'belt' (accelerometer). Children were then asked to describe what they had drawn and were asked further questions in relation to their responses. Each focus group lasted around 30-40 minutes. A full version of the mid-intervention family focus group guide can be found in Appendix VIII.

Post-intervention qualitative research

Semi-structured interviews

One-to-one interviews with parents were conducted in the week following the eight days of quantitative data generation collection and upon completion of the intervention. All parents who had attended any sessions throughout the 12 weeks, including those who were classified as low engagers and were not included in overall quantitative analysis procedures, were invited to participate in a family focus group/interview. Interviews with these individuals (N=3) were conducted via telephone and focused on their reasons for non-attendance at project sessions. The interview questions explored the impact of the intervention on family/participant relationships, PA, diet and mental health (of themselves and their children), and changes in smoking and alcohol consumption. Questions about the acceptability of the intervention and programme content were also included, and parents were asked to use prompt cards (which included images from each of the sessions offered though the 12 weeks) to facilitate discussions and rank the importance of the sessions. Parents were also asked to provide information about how they found completing the quantitative methods and describe the activities they participated in during the week to provide additional information and context to the quantitative data. A full version of the interview guide can be found in Appendix VIII.

Qualitative data analysis

As with qualitative data from Phase 1 of the study, all interviews were recorded with permission from participants and transcribed verbatim for analysis. NVivo 2.0 was used to collate the interview transcripts. Data from each time-point were analysed separately using a manual thematic analysis procedure and a combination of inductive and deductive techniques, as detailed in Chapter 5.

Intervention content

Once all pre-intervention measurements had been conducted with participants, the 12-week intervention was implemented. A range of sessions were offered throughout the week for families to attend. Text message reminders were sent the day before all sessions throughout the 12 weeks (N=68) to maximise participation (Briannam, Fjeldsoe, Marshall et al., 2009). Families were under no obligation to attend all activities, but were instead encouraged to attend sessions which appealed to them and fitted in to their family lifestyle. Sessions were between 60 and 120 minutes in length and included:

- Weekly PA-based sessions, including: family fun, adult gym sessions/child fun sessions, family walking/bike ride sessions, adult yoga sessions/child fun sessions.
- Weekly social coffee mornings.
- One-off health education/awareness sessions (one theme per week), including: alcohol awareness, smoking awareness, lifestyle awareness, debt management, mental health awareness, employment and volunteering (separate adult and child groups).
- Family cook and taste sessions, including an educational element.

Sessions were led by a range of internal (EitC) and external expert staff and supported by EHU students and EitC volunteers, all of whom took part in an intervention training session at Goodison Park prior to delivery. The project researcher was also present at all sessions and kept a research diary throughout the process (see Chapter 9). A full intervention timetable,

alongside information about key session aims and delivery staff details, can be found in Table 6.3 below.

Behaviour change techniques

Behaviour change techniques are considered the 'active ingredients' of an intervention which can be adopted to facilitate behaviour change (Biddle, Mutrie & Gorely, 2015). For the current study, PA and diet behaviour change techniques were aimed particularly at parents, however for consistency children were also provided with information on the health-based themes and how they may support parents to make positive health changes. The refined CALO-RE taxonomy, as developed by Michie, Ashford, Sniehotta et al. (2015), was adopted during the intervention design phase to identify specific behaviour change techniques which would be used during individual session types across the 12-week intervention period to assist with positive changes being made related to PA and eating behaviours. Similar taxonomies of behaviour change techniques to reduce alcohol consumption (Michie, Whittington, Hamoudi et al., 2012) and offer support for smoking cessation (Michie, Hyder, Walia et al., 2011) were used in the alcohol awareness and stop smoking sessions. Information about the behaviour change techniques adopted through different session types, alongside specific examples of use, can be found in Table 6.4 and Table 6.5. All behaviour change techniques adopted in the intervention were consistent with the key theories and concepts underpinning the study (see Chapter 3). In total, 20 PA/healthy eating change techniques were adopted, alongside seven smoking change techniques and nine alcohol change techniques

Table 6.3 Session timetable and main aims and objectives

Session type & delivery staff lead	Week, day and time	Aims/objective
Social coffee morning Adults (children welcome) - Lead researcher	Mondays (week 1 -week 12) 9:30am -11am	• Offered an opportunity for families living within the local community to meet in a relaxed and informal setting and to discuss the project, future sessions, individual and group progress and follow-up on any themes from the weekly sessions with the researcher.
Cook and taste (All family members) - North Liverpool and Sefton food worker team	Mondays group 1 = week 5-7, group 2 = week 8-10 3:45pm-5:15pm	The sessions were designed to equip families with the knowledge and skills to incorporate a healthy balanced diet into their lifestyle. The session was split into a practical cookery session followed by an education session with a different focus each week. • Week 1 - discussed the Eatwell Plate giving detailed information for each of the five food groups. • Week 2 - discussed how to read and understand labelling. Discussed salt and used visual resources highlighting the amount of sugar in food and drinks. • Week 3 – discussed budgeting and portion sizes for both adults and children.
Mental health awareness Adults and children (separate sessions) - Adults - EitC Mental Health football co-ordinator Children – lead researcher	Tuesday – week 3 4pm-6pm	• Adults - offered an opportunity for adults to gain knowledge around some common mental health conditions and their prevalence (including information about the negative impact of mental health stigma), whilst also gaining an understanding of the link between PA and mental health.

		• Children – focused on understanding feelings and mood and the importance of friends and family through a variety of games and craft activities.
Smoking awareness Adults and children (separate sessions) - Stop smoking adviser - Roy Castle Fag Ends, children – lead researcher	Tuesday week 4 5pm-6pm	• Adults – were provided with information about local community stop smoking sessions and initial education and support around stopping smoking. • Children were provided with information about how smoking can impact on health, advice on avoiding peer pressure, and how to 'say no to smoking'/what to do if a friend is smoking and supporting parents with stopping smoking though a variety of fun games and activities.
Employment/volunteering Adults (children's fun PA session at same time) - Adults - EitC volunteer co-ordinator & employment co-ordinator Children – EHU students	Tuesday – week 6 5pm-6pm	• Discussed the benefits of volunteering for health and well-being. • Helped adults to learn about the opportunities available through EitC and how volunteers can help with these opportunities. • Discussed progression back into employment, CV writing and interview support.
Alcohol awareness Adults and children (separate sessions) - Adults - EitC veteran mentor Children – lead researcher	Tuesday – week 7 5pm-6pm	• Reviewed the topic of alcohol and the harm it can cause. • Provided an overview of units and what is in different types of drinks. • Provided solutions and support including services if parents are concerned about their own/someone else's drinking.
Debt management Adults (children's fun PA session at same time) - Financial adviser – Babcock international Children – EHU students	Tuesday – week 8 5pm-6pm	• Discussed managing money and tips for budgeting and keeping on top of spending. • Provided information on how to reduce debts or become debt-free. • Provided contacts to local services to help reduce debts.

Lifestyle management Adults and children (separate sessions) - Adults - Edge Hill MRes student and volunteers Children - lead researcher	Tuesday – week 10 5pm-6pm	• Discussed the benefits of PA and national guidelines for adults and children. • Discussed the importance of a healthy diet for both parents and children. • Discussed the benefits of sleep. • Educated parents and children about fizzy drink and caffeine consumption.
Yoga Adults (children welcome to join in or separate fun session) - Adults - External yoga instructor Children - lead researcher	Wednesdays (week 1 – week 12) 6:30pm-7:30pm	• Provided opportunity to take part in a yoga session which helped to promote relaxation, build core strength, tone muscles, improve posture, increase energy and contributed to overall PA.
Gym sessions Adults and older children (children's fun PA session at same time) - Adults - EitC Health and Well-being practitioner Children - lead researcher	Thursdays (week 2 – week 12, after induction in week 1) 1:15pm-2:15pm	• Small group gym sessions were carried out with support from a number of personal training staff which allowed adults to work on specific training goals. • Parents were also educated about overall health including the importance and benefits of drinking water and a healthy diet.
Stanley Park Walk/cycle All family members - Choose freedom - Cycling development officer/walk co-ordinator	Fridays (week 1 – week 12) 11am-12:15pm	• Offered an opportunity for families to meet up and interact in a social environment while engaging in light PA/walking.

Table 6.4 Session type and behaviour change techniques adopted for PA and eating behaviours. Italic figures in parentheses refer to each technique's corresponding number on Michie et al's (2015) taxonomy

Session type	Behaviour change techniques adopted	Examples of use and target variables
Social coffee morning	• Goal setting (behaviour) & weekly review of behaviour goals *(5)* • Barrier/identification/problem solving *(8)* • Prompting focus on past success (*18)* • Action planning *(7)* • Provide feedback on performance (*19)* • Prompt practice (26) & use of follow up prompts *(27)* • Facilitate social comparison *(28)* • Provide normative information about others behaviour *(4)*	*(5)* All family members were encouraged to make behavioural resolutions related to any aspect of their health (e.g. reduce sugar consumption). For some families these were made weekly and for others less frequently, but were reviewed during weekly coffee mornings. = **Motivation and self-efficacy.** *(7)* Families were also encouraged, where possible (with the support of the delivery staff), to specify the minimum level of acceptable change e.g. cut down sugar to one teaspoon = **Habitus/habit and motivation.** *(28)* Weekly group sessions provided opportunity to mix with others "in the same boat" which may have helped to change perceptions and improve self-efficacy. Weekly discussions in coffee mornings provided opportunities for parents to compare their own behaviours and health and their children to others. **= self-efficacy and motivation.**
Cook and taste	• Provide information about the consequences of behaviour both general *(1)* and individual *(2)* • Fear arousal *(32)*	*(1,2*) During the education element of the session families were given information about a particular theme each week (e.g. sugar and what impact poor health choices can have on health). Where possible, visual aids were used e.g. bottles of fizzy drinks and the relevant weights of sugar in each. **= capital and motivation.**

	• Provide instruction on how to perform the behaviour *(21)* • Model/demonstrate the behaviour *(22)* • Prompt identification as role model *(30)* • Prompt practice (*26)*	(*21,22*) Families were provided with recipes, ingredients and facilities and given instructions (both verbal and written) from delivery staff, before being shown visually skills such as knife or measuring skills and then cooking a meal in the session **= habitus/habit and self-efficacy.**
Family fun	• Prompting generalisation of a target behaviour *(15)* • Provide instruction on how to perform the behaviour *(21)* • Model/demonstrate the behaviour *(22)* • Provide information on when and where to perform the behaviour (20)	*(21, 20)* Families were provided with ideas about games they could play with their children at home and also provided opportunities to engage in the games in free outdoor spaces (e.g. the park) which could then be replicated by families outside the sessions. **= motivation, capital, habitus and self-efficacy.**
Yoga	• Provide information on when and where to perform the behaviour (20) • Provide instruction on how to perform the behaviour *(21)* • Model/demonstrate the behaviour *(22)* • Prompt practice (*26)*	*(21,22*) The yoga instructor provided instructions related to yoga poses and techniques and also participated in the session to model the behaviour to parents **= self-efficacy.**
Gym sessions	• Goal setting (outcome) *(2)* • Provide information on when and where to perform the behaviour *(20)* • Provide instruction on how to perform the behaviour *(21)* • Model/demonstrate the behaviour *(22)*	*(2)* Guided goal setting was used to set weekly targets with each family **= Motivation, habitus and self-efficacy.** *(29)* A whole family approach was embedded throughout the project (i.e. all family members encouraged to attend the sessions encouraged to

	• Plan social support/social change *(29)*	change their own behaviour). The group as a whole were also encouraged to attend local activities together and help each other out (e.g. provision of lifts) **= figurations, motivation and self-efficacy.**
Stanley Park Walk/cycle	• Provide information on when and where to perform the behaviour *(20)* • Shaping *(14)* • Action planning *(7)*	*(20)* Families were provided with opportunity to engage in walking/cycling sessions in free outdoor spaces. Further information about other walking groups and local parks and facilities were also given to parents. **= motivation, capital and self-efficacy.**
Lifestyle management	• Provide information about the consequences of behaviour both general *(1)* and individual *(2)* • Prompting focus on past success *(18)* • Goal setting (behaviour) *(1)* • Fear arousal *(32)* • Relapse prevention/coping planning *(35)*	*(18)* Families were encouraged to think of a time they have successfully carried out a behaviour or made a change related to their health in order to increase confidence. **= self-efficacy.**

*Feedback on behaviours including adult and child PA levels, was also provided in line with the quantitative methods (pre-intervention, post-intervention and 12 month post-intervention) and discussed informally within other sessions. Parents were also encouraged to self-award successful behaviour alongside providing incentives for children.

Table 6.5 Session type and behaviour change techniques for smoking and alcohol. Italic figures in parentheses refer to the technique's corresponding number taken from Mitchie, Hyder, Walia et al. (2009) (smoking) and Michie, Whittington, Hamoudi et al. (2012) (alcohol)

Session type	Behaviour change techniques adopted	Example of use and target variables
Smoking awareness	• Provide information on consequences of smoking and smoking cessation (BM1) • Boost motivation and self-efficacy (BM2) • Provide normative information about others' behaviour and experiences (BM5) • Identify reasons for wanting and not wanting to stop smoking (BM9) • Explain the importance of abrupt cessation (BM10) • Advise on changing routine (BS7) • Advise on conserving mental resources (BS10) • Give options for additional and later support (A5) • Offer/direct towards appropriate written materials (RC5)	*(BM1)* A trained advisor talked to parents as a group about the negative impact of smoking on health, including the use of visual aids and information on how to begin the journey to smoking cessation **= capital and motivation.** *(A5)* All parents were provided with contact details for local stop smoking groups and arrangements made for the advisor to meet families and take to the first session if required **= capital and motivation.**
Alcohol awareness	• Provide information on consequences of excessive alcohol consumption and reducing excessive alcohol consumption (1) • Identify reasons for wanting and not wanting to reduce excessive alcohol consumption (2) • Boost motivation and self-efficacy (3) • Provide normative information about others' behaviour and experiences (4)	*(1)* Awareness sessions conducted on the health and social harms of alcohol **= capital and motivation.** *(2)* Parents were asked to write down personal reasons for and against reducing their alcohol intake to discuss with the group **= motivation.**

	• Advise on avoidance of social cues for drinking (16) • Advise on/facilitate use of social support (26) • Give options for additional and later support (27)	*(26)* A group session allowed for discussion between like-minded individuals **= figurations and motivation.**

*Feedback on behaviour including adult and child PA levels, overall dietary quality, daily/weekly alcohol units consumed, daily/weekly cigarettes smoked and self-rated mental well-being was provided in line with the quantitative research methods (pre-intervention, post-intervention and 12 month post-intervention) and discussed informally within other sessions. Parents were also encouraged to self-award successful behaviour.

Session location

All sessions, excluding the Stanley Park walking sessions, were held at Goodison Park. The gym sessions took place in the 16 piece gymnasium located in the Everton Active Centre based at the football stadium. The social coffee mornings and one-off education sessions (e.g. alcohol awareness) took place in small rooms at the stadium, and the family fun, cook and taste and yoga sessions took place in corporate lounges.

Results

As with Phase 1, quantitative (pre-post for accelerometer and EMA and pre-mid- and post- intervention WEMWBS differences) and qualitative results (mid- and post-intervention) are presented together according to the themes of physical, psychological and social impact for ease of analysis and presentation. Where relevant, data derived from children's focus groups (mid-intervention and six months post-intervention only) is presented to support the themes and topics discussed by parents.

Sample size, statistical significance, causality and trustworthiness

Due to the small sample size and subsequent low statistical power of the study, a cautionary note in relation to the interpretation of the quantitative results presented within this chapter (and also in Chapter 7) is added here, particularly related to the more traditional statistics including P values and confidence intervals. Statistical power has been defined as 'the probability of detecting as significant a clinically or practically important difference of a pre-specified size' (Batterham & Atkinson, 2005:153). This is due to the fact that when conducting a research study of this type, data is used to estimate the true effect using the observed estimate and 95% confidence interval (Hackshaw, 2008). Researchers have begun to critique the reliability of P values, in particular suggesting that they are only as reliable as the sample

from which they have been calculated. Therefore, a small sample taken from a whole population is unlikely to be a reliable representation of that population (Krzywinski & Altman, 2013). With this in mind, where statistical significance is found and the intervention is deemed to impact upon the numerous health behaviours studied, the claims regarding this impact are not intended to be generalised to the whole population or used to make generalised inferences, but instead show, based on the sample who remained involved with the intervention that the intervention had a significant impact for these individuals and/or families.

It has been noted that a criterion of good quantitative research is the extent to which there is confidence in the researcher's causal inferences (Bryman, 2011). This issue of causality needs to be considered within the current study, particularly as it was not deemed practical to include a control group for comparison. Therefore, even when results demonstrate changes between phases of study (e.g. pre-post), it can only be considered plausible as opposed to definitive that the intervention led to families making changes to their health behaviours, as opposed to any other unrelated factors e.g. a change in family circumstances. However, insights gained through qualitative methods allowed questions to be asked around why changes in behaviour had taken place, which may have helped to improve the ability of the study to generate findings which permit a causal interpretation (Bryman, 2011).

Baseline sample characteristics

Seventeen families (19 parents) initially expressed an interest in participating in the project and were sent information about the research and intervention sessions. As can be seen from Figure 6.1 below, 14 families (N=37) took part in baseline (pre-intervention) measures. 31 participants - 15 adults (13 female and two male, mean age = 31.70 years ± 9.31) and 14 children (9 female and 6 male, mean age = 6.79 years ± 2.39) - met the minimum criteria for inclusion in the PA (accelerometer) element. All 15 parents completed WEMWBS (self-

rated mental well-being questionnaire) and nine parents (all female - mean age = 35.67 ± 9.30) met the minimum criteria for inclusion in the EMA element (diet, smoking and alcohol). Biographic information about the families who took part in Phase 2 can be found in Table 6.6. Four of the 14 families did not attend any sessions/dropped out of the intervention. These families were interviewed at the post-intervention stage to explore their reasons for this drop out. Two families suggested that a lack of time or work commitments prevented them from attending sessions, while one referred to a lack of motivation or tiredness as the primary reason for their lack of attendance. Information about which families engaged in the various elements of research can be found in Table 6.7.

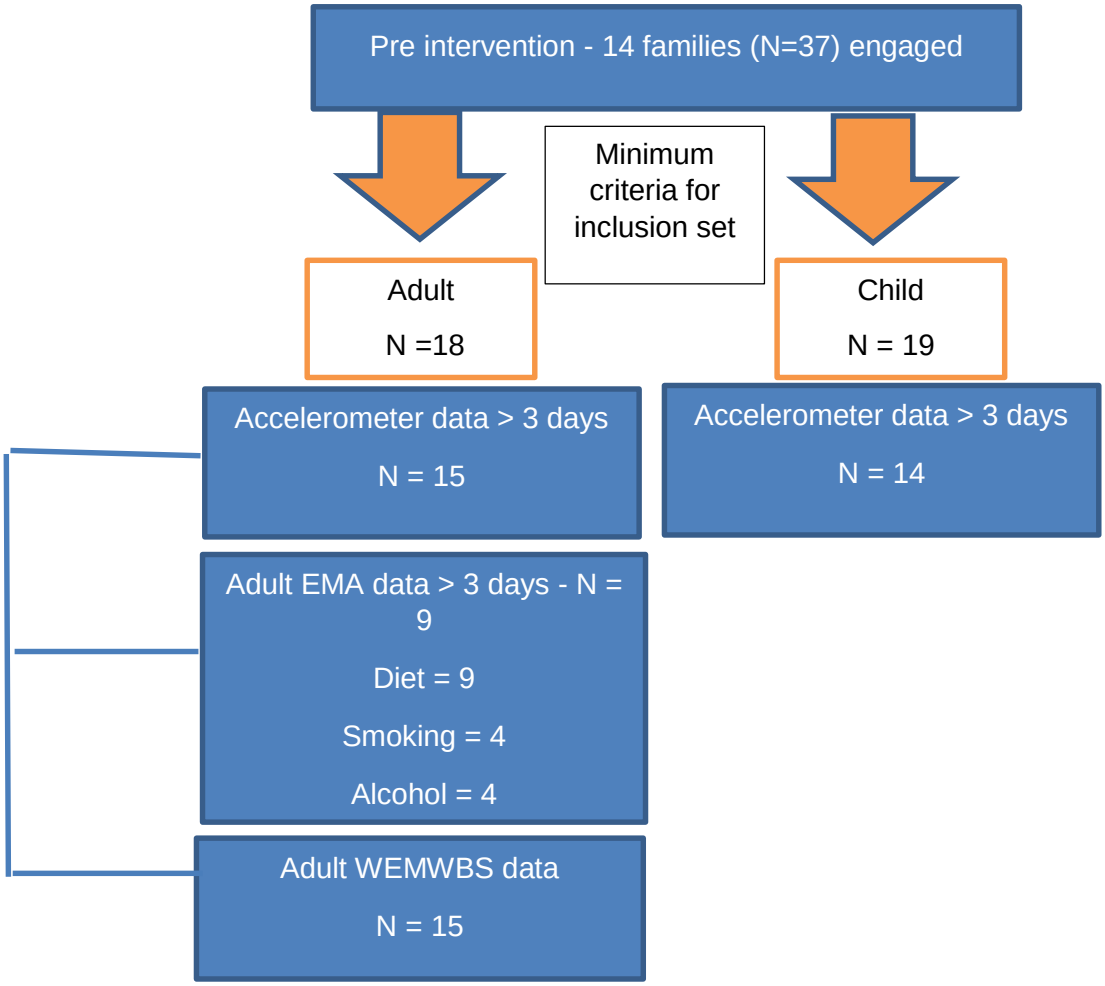


Figure 6.1 Number of participants included in the pre-intervention phase

Table 6.6 Phase 2 family biographies

Name(s)	Employment status	Age(s)	Dependent children	Marital Status(')	Additional comments
Sarah	Unemployed	22	2	Single	Sarah's children are not currently in contact with their biological father.
Debbie	Full-time employment	26	1	Single	Debbie is currently living with her Mum and Dad, two younger siblings and her Nan, who requires full-time care from the family. Debbie's son has infrequent contact with his father.
Linda	Unemployed	44	1	Married	While Linda is currently unemployed, her husband is in full-time work and she takes part in voluntary-work twice per week.
Sharon	Unemployed	48	1	Living with partner	Sharon also has a 20-year-old son from a previous relationship. Her partner was working full-time until he was recently made redundant. Sharon suffers with depression and agoraphobia. Sharon and Stacey are sister-in-laws.
Stacey	Unemployed	48	4	Living with partner	Stacey's second oldest child who is 15 has dwarfism. Her partner is also currently unemployed.
Emily	Full-time employment	34	1	Living with partner	Emily works two jobs part-time and her partner is in full-time employment. They were currently engaged to be married in Summer 2015.
Donna	Unemployed	27	2	Single (blended family)	Donna has two children: one with her current partner and one from a previous relationship. Although she declared herself as 'single', she is currently living with her partner. Her youngest child has developmental problems, while her older child has been diagnosed with ADHD.
June	Unemployed	40	1	Single	June's son has weekly contact with his father. June is Linda's neighbour.
Lizzie	Full-time employment	33	1	Single	Lizzie's daughter spends one evening and one weekend day with her biological father. Although Lizzie classified herself as single, she recently split from her husband and is in the process of a divorce. Lizzie is friends with Emily.

Sophie	Unemployed	31	2	Single	Sophie's children do not have regular contact with their biological father.
Abby & *Mick	Unemployed	26 28	3	Living with partner (blended family)	Abby and her partner got married in Summer 2014. Her husband is father to her youngest child while the two eldest children are children from a previous relationship who have no contact with their biological father. Her two youngest children are registered with CAMHS.
Naomi & Ben*	Unemployed Unemployed	22 22	2	Single	Naomi and Ben are no longer in a relationship but attended the event and were interviewed together.
***Daniel**	Full-time employment	34	3	Married	Daniel and his wife have three children together. Their middle child has Downs Syndrome.
***Tamara**	Unemployed	33	7	Living with partner (blended family)	Tamara's youngest child is fathered by her current partner while her other 6 children are from a number of different partners. All children see their biological fathers once per week.

*Did not attend or dropped out of intervention

Table 6.7 Phase 2 research elements families engaged in

Name(s)	Pre-Accelerometer data	Pre-EMA	Post-Accelerometer data	Post-EMA	WEMWBS	Interviews participated in	Project engagement
Sarah	Yes (+ 1 child)	Yes	Yes (+ 1 child)	Yes	Pre, mid, post	Pre, mid, post	High
Sharon	Yes (+1 child)	Yes	Yes (+1 child)	Yes	Pre, mid, post	Mid, post	High
Emily	Yes (+1 child)	Yes	Yes (+1 child)	Yes	Pre, mid, post	Mid, post	High
Donna	Yes (+2 children)	Yes	Yes (+1 child)	Yes	Pre, mid, post	Mid, post	High
Linda	Yes (0 children)	Yes	Yes (0 children)	Yes	Pre, mid, post	Pre, mid, post	Mid
Stacey	Yes (+2 children)	Yes	Yes (+2 children)	Yes	Pre, mid, post	Mid, post	Mid
Lizzie	Yes (+1 child)	Yes	Yes (+1 child)	Yes	Pre, mid, post	Mid, post	Mid
Sophie	Yes (+1 child)	No	No	No	Pre, mid, post	None	Low
Naomi & Ben*	Yes No (no child data)	No No	No No	No No	Pre, mid, post Pre	Pre, post No	Low

Abby & Mick*	No Yes (no child data)	No No	No No	No No	Pre, mid, post Pre, mid, post	Pre, post No	Low
Tamara*	Yes (+ 3 children)	No	No	No	Pre	Pre	Low
Daniel*	Yes (+1 child)	No	No	No	Pre	Pre	Low
June	Yes (+1 child)	Yes	Yes (+1 child)	Yes	Pre, mid, post	Mid, post	Low

*Did not attend or dropped out of intervention

Baseline PA

All children under five (N=3) met the UK guidelines of 180 minutes of PA spread throughout the day (mean = 267.30 ± 29.93 minutes), which is notably higher than the number of boys (10%) and girls (9%) achieving the guidelines in England in 2012 (Health and Social Care Information Centre, 2013). All children aged five and over (N=11) met the UK guidelines of >60 minutes of moderate-vigorous activity per day (mean = 118.89 ± 74.49 minutes), which is higher than the number of boys (21%) and girls (16%) achieving the guidelines in England in 2012 (Health and Social Care Information Centre, 2013).

All adults, apart from one (who only wore the belt for 4 days) also met the adult UK guidelines of 150 minutes of moderate-vigorous activity per week. This proportion is higher than the national average for both males (67%) and females (55%) in the UK (Health and Social Care Information Centre, 2013). When standardised for wear time and calculated for an average 13 hour day, (for the high-mid intervention group). This equated to 51.11 minutes of MVPA per day (± 21.58 minutes), which is 6.55% of the total waking day, and 69.94 minutes of MVPA for the low engagers (± 22.90 minutes), which is 9% of the total waking day. However, not all of this activity was gained from bouts of >10 minutes of activity, with adults achieving an average of 100 minutes of weekly activity (± 128.51 minutes) from moderate-vigorous bouts of >10 minutes; only two adults achieved the guidelines from bouts of >10 minutes.

Baseline sedentary behaviour

The average total daily sedentary time was 493 minutes per day for adults (± 111.10 minutes), which is higher than the average sedentary time per week day for both men (294 minutes) and women (282 minutes), and per weekend day for both men (324 minutes) and women (306 minutes) (Health and Social Care Information Centre, 2013). When wear time was standardised and calculated for an average 13 hour day, these scores increased for the high/mid intervention engagers (519.31 minutes ± 60.66) and the low engagers (513.32

minutes ± 80.53). This equated to 67% and 66% of total waking time, respectively.

The average total daily sedentary time for children under five was 251.73 minutes (± 71.44 minutes) which was higher than the average week day averages for both boys (198 minutes) and girls, (192 minutes) but slightly lower than weekend averages for boys (252 minutes) and slightly higher for girls (240 minutes) (Health and Social Care Information Centre, 2013). The average total daily sedentary time for children over five was 457.57 minutes (± 94.73 minutes), which is higher than week day averages for boys (198 minutes) and girls (192 minutes) and higher than the weekend averages for boys (252 minutes) and girls (240 minutes) (Health and Social Care Information Centre, 2013).

Baseline self-rated mental well-being

Overall, the mean WEMWBS score was 45.91 (± 9.50), which is lower than the English population mean of 52.3 for adults +16 years old (Health and Social Care Information Centre, 2013). Mental well-being in the UK is also below the EU average, as in 2012, the UK ranked 20th of 27 EU countries on the WHO-5 mental wellbeing index (Department of Health, 2014).

Baseline diet

The mean dietary quality score was 9.56 (± 2.09) out of a minimum score of 5 and a maximum of 25 with participants scoring 2.13 out of a maximum of 3 (± 1.00) for NMES. The participants consumed on average, 51.94g of NMES (± 45.32g) per day, which is higher than the 2015 recommendations of 30g per day and slightly higher than the national average consumption for females (49.2g). However (44.44%) of the sample consumed below the 2015 recommendations.

The average score for fruit consumption was 1.94 out a maximum score of 3 (± 0.71) and 1.64 out of a maximum of 3 (± 0.73) for vegetable consumption,

with participants consuming 3.18 (± 2.66) portions of fruit and vegetables on average per day, which is lower than the UK national average of 4.1 portions per day (Health and Social Care Information Centre, 2013) and lower than the recommendations of five portions a day. No participants consumed any oily fish, which is below the recommendations of at least one portion per week and also lower than the national average of 23% of adults consuming at least one portion of oily fish per week (Health and Social Care Information Centre, 2013). The mean score for fat was 2.64 out of a maximum score of 3 (± 0.38g), with participants consuming on average, 59.0g of fat per day (± 29.40) and 89% of the sample consuming below the national recommended 85g of fat per day. This is also below the national average for females (60.1g per day) (Health and Social Care Information Centre, 2013).

Baseline alcohol

Four participants (all female) regularly drank alcohol and consumed 17.33 units per week on average, (± 18.62) which, is above the national recommendations from the Royal College of Physicians that women should not intake more than 14 units of alcohol per week, and also above the national averages for women's alcohol consumption (8.4 units for women aged 16-24, 8.1 units for women aged 25-44, and 8.8 units for women aged 45-65) (ONS, 2010). In addition, these units were generally accumulated across the weekend (an average of 7.33 units ± 5.90 units consumed per weekend day), which is over two times higher than the maximum recommended units to be consumed on one day (2-3 units).

Baseline smoking

Three participants smoked cigarettes and reported smoking an average of 10.97 cigarettes per day (± 10.37) which was slightly lower than the UK smoker's average of 12 cigarettes a day (2013). One participant also smoked an e-cigarette (mean = 45 puffs per day).

Intervention effect (pre- mid- and post- results)

In this section both quantitative and qualitative results are presented for families who attended intervention sessions and engaged with the research process. Eight families met the minimum criteria for PA data analysis (all high and mid-engagers), while seven families participated in and met the inclusion criteria for the EMA element, 14 parents from 13 families were included in the WEMWBS pre-mid-post analysis. Mid-intervention family focus groups were conducted with six families, while post-intervention parent interviews were conducted with 11 parents (all four high-engagers, three mid-engagers and three low-engagers). The six parents and their children interviewed at the mid-intervention phase had all engaged well with the programme, with a group of four high-engagers attending between 21 and 35 sessions across the first six weeks of the PFP intervention, and a group of mid-engagers attending between six and 15 sessions out of a possible 40 sessions on offer at the time.

At the post-intervention phase, and within seven days of completion of the intervention, all six parents who had been interviewed mid-intervention were interviewed again, together with an additional four participants. One of these participants had signed up to the intervention late and had not been interviewed previously, and three were classified as 'low engagers', attending less than one session per fortnight (and had not been interviewed mid-intervention). All participants who had engaged with any of the intervention sessions were included in the qualitative analysis at this point to establish their reasons for non-engagement and assess whether the intervention had elicited any health benefits for families who had engaged with a limited number of sessions.

Three participants were classified as 'mid-engagers' attending between 24 and 12 sessions (at least 1 session per week for the 12-week intervention period). The remaining four participants were classified as 'high engagers', having attended between 58 and 36 sessions out of a potential 68 sessions. While some research studies define intervention completion of 75% attendance of the programme (Hughes, Stewart, Chapple et al., 2008), in the

current study, as previously detailed, participants were under no obligation to attend all activities offered through the PFP, but were instead encouraged to attend sessions which appealed to them and fitted in to their family lifestyle. Therefore given the low numbers of families who took part in the intervention, all high and mid-engagers who at engaged with the programme and attended at least one session per week across the 12-week period were included in the quantitative analysis. Fox (2000) has previously suggested that short (less than 12-week) engagement in PA may not be sufficiently powerful to change behaviour and attitudes.

Physical impact

Physical activity and sedentary behaviour

Results showed that the intervention did not have a statistically significant impact on sedentary behaviour (Z = -0.827, p = 0.408), and median sedentary behaviour was higher post-intervention (38.49 minutes per hour) than at the pre-intervention time-point (37.27 minutes). However, despite this lack of statistical significance, four participants suggested they and/or their children had reduced the amount of time spent in screen-based sedentary activities e.g. playing computer based games or watching the television such as Naomi, for example, who said:

> Because of me not knowing that anything was on, I used to just like sit at home, sit on the couch, watch TV and not do nothing for days. I wouldn't like get myself out or anything because I didn't know the area. But since I knew stuff was coming on, I'd get out. It's just like changed me a little bit.

In addition, while overall sedentary time was higher post-intervention, the mean number of daily sedentary bouts of >10 minutes was lower post-intervention (2.66 ± 0.84) than pre-intervention (2.77 ± 1.18), and the total amount of time spent in sedentary bouts was also lower (post - 37.81 ± 18.17 minutes; pre - 35.07 ± 11.90 minutes). However, the mean time per bout was

slightly higher post-intervention (pre - 11.79 ± 3.22 minutes, post - 11.88 ± 2.31).

Results showed that the intervention did not elicit a statistically significant change in MVPA behaviour (Z = -0.207, p = 0.836) for all participants. However the median MVPA score was marginally higher post-intervention (6.82 minutes per hour) compared with 6.05 minutes per hour pre-intervention. The results of adult data, however, demonstrated that the intervention had a significant impact on the parents' MVPA levels (achieved through bouts of >10 minutes) t(6), = -2.80, p = 0.03, 95% CI [-18.61 to -1.27], Hedges g = -0.57, which is a medium effect size. As Figure 6.2 shows, there was a 97% chance that the intervention led to an increase adult MVPA of at least 0.2 SD, while there was a 82% chance that the intervention led to an increase in adult MVPA of 0.6 S.D.

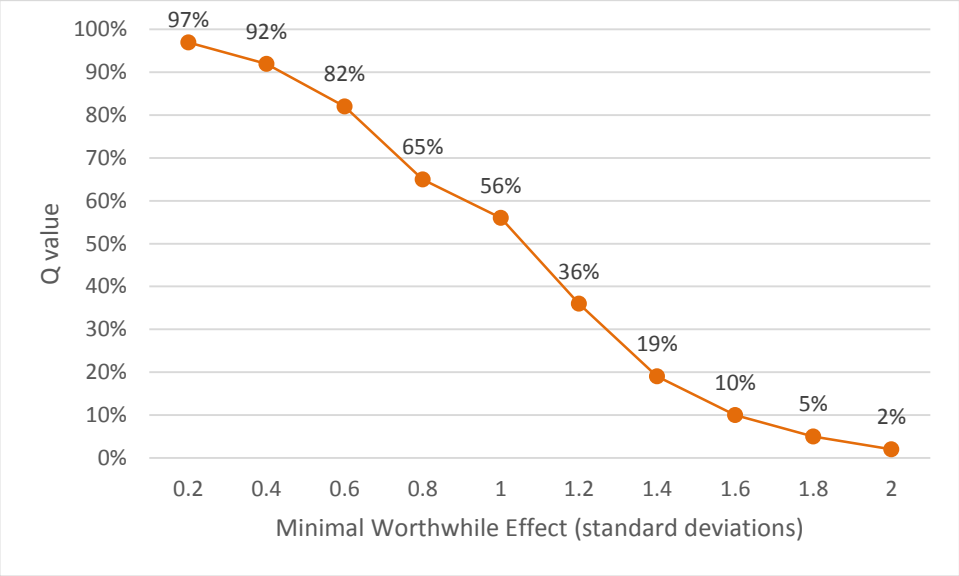


Figure 6.2 MCID scores calculated for S.Ds between pre- and post-intervention for adult MVPA (bouts of <10 minutes)

In support of these post-intervention quantitative findings, six parents (four high engagers, one mid-engager and one low-engagers) felt they were engaging in more structured exercise or PA as a result of the intervention. Lizzy, for example, described her engagement in the PA sessions as this:

> I enjoyed it. It was good. It was good, the stuff I did do, and I could participate in, the yoga and that. It was good, because I could do it, and the baby was getting minded. And I don't get a chance to do anything like that. Do you know what I mean? So that was particularly helpful for me.

In other cases parents suggested that they/their children were also engaging in other structured PA outside beyond the project (N=3), including Sharon who explained joining a gym in the week preceding the intervention: 'I'm more active in general, but then I have joined the gym, so I'll be doing the two gyms, but I'm looking more at that gym as swimming, rather than the physical things'. In support of these qualitative comments the mean number of daily moderate bouts of activity for adults was higher post-intervention (0.94 ± 1.37) than pre-intervention (0.84 ± 1.08). The total time spent per moderate bout of activity also increased from pre- (25.48 ± 13.66 minutes) to post- (32.53 ± 11.38 minutes) intervention, and the average time per bout was also slightly higher post-intervention (13.75 ± 2.45 minutes compared with 13.15 ± 1.06 minutes pre-intervention). There were no vigorous bouts of >10 minutes at either time-point. Parents did not meet the UK guidelines for PA when the PA was totalled according to bouts at either the pre- or post- intervention time-points, though the mean MVPA time achieved through bouts (>10 minutes) increased from 18.30 minutes per week ± 16.70 to 28.14 minutes per week post-intervention ± 16.07.

The quantitative results also showed that the intervention had no significant impact on overall PA levels ($Z = -0.414$, $P = 0.679$), with a median of 20.588 minutes pre-intervention, compared to 21.51 minutes post-intervention. Qualitative findings, however, suggested that parents felt PA levels had improved as a result of the intervention. After six weeks of sessions (mid-intervention), participants began to discuss how the programme and attending sessions had begun to encourage them to be more active (N=5), and by the post-intervention stage the majority of participants (N=9) felt the programme led to increases in PA for them and their children. During the mid-intervention interviews, for example, Sharon said: 'because for me to go to the gym on my

own, I wouldn't go and if I did I wouldn't work out as much as I do with [programme delivery staff name]'. This was supported by comments from the two parents' children, who also reported increases in their PA as a result of the intervention. Fiona, a 10-year old child, said: 'Because I used to always be in the house, and I didn't do that much in the days. And I'm doing more activity.'

The mean number of daily moderate bouts of activity was slightly higher post-intervention compared to pre-intervention, and the mean number of daily light bouts of activity was lower post-intervention (0.23 ± 0.25 minutes) than pre-intervention (4.70 ± 4.14 minutes). The total time spent per light bout of activity was also lower post-intervention (13.46 ± 9.55 minutes) than pre-intervention (69.77 ± 50.38 minutes), and the average time per light bout was lower post-intervention (11.77 ± 1.69 minutes) than pre-intervention (12.76 ± 1.40 minutes). Despite this, three participants at the post-intervention stage referred to being more active, outside of the sessions, since attending the programme. In relation to light activities and walking, Linda said:

> This week I've done like walked to town, walked down town, getting loads of stuff for [daughter's name]. I've just been doing lots of walking this week and last week….I seem to have done more walking since.

Seven participants also specifically referred to increasing their engagement in activities such as walking for leisure or transport. In the case of the latter. Donna explained how: 'I've started doing good with my physical activity, because I am a lot fitter, so I walk everywhere now instead of taxis. Naughty me!'

Diet

Quantitative results demonstrated there was a significant difference in pre- (10.04, ± 0.70) and post-intervention overall dietary quality scores (11.94 ± 0.68), $t(6)$, -3.83, p = 0.009, 95% CI [-3.12 to -0.69], suggesting the intervention led to participants making positive changes to their diet. (Hedges g = -0.97 which is a large effect size). In support of these findings, while

physical changes to diet were not discussed by any participants at the mid-intervention time-point, during the post-intervention interviews all participants noted they had improved their diet following the intervention. As Figure 6.3 indicates, there is a 99% chance that the intervention led to an increase in dietary quality of at least 0.2 SD, while there is an 86% chance that the intervention led to an increase in dietary quality of 1 S.D.

When discussing which elements of their diet, in particular, the intervention had impacted on, eight parents suggested they had increased their fruit and vegetable consumption, which also led to a positive change in their children's consumption. Sharon explained that changes to her diet and that of her child had changed thus:

> Looking back now, we were probably in a rut. We thought we were eating healthy, but we weren't, you know. [Child's name]'s dinners now, which she wants, it's like a fruit. She has fruit for her breakfast, she has fruit in her lunch bag, scrapings of butter. You know just even going from like using Clover, Flora Light, and just things like that, you know, and she's not eating crisps...She still eats her sweets and that, which, you know, I don't suppose you can stop kids, but...So as a whole family, we're all doing it.

Post-intervention, eight out of ten parents suggested that they were engaging in more home cooking as a result of the programme and specifically the Cook and Taste sessions. For example, Naomi, a low-engager, said:

> Well, yes, because not so much eating healthy, but the way I felt and that cookbook, the recipe book, I've done ideas out of that. I've been cooking like fresh meals and everything, because we were just like stuffing meals in, and we weren't like cooking from scratch.

During the post-intervention interviews, two participants also made reference to the knock-on-effect that the intervention had upon the diet of members of their wider family who did not attend sessions (primarily partners and older

children). Sharon discussed how her daughter, Faye, passed on the knowledge she had learned during the project sessions on to her teenage brother, which led to him cutting down on his energy drink consumption 'She's even questioning her brother now…Her brother's stopped drinking the Lucozade orange…she still tells him, "You shouldn't be drinking loads of that"'.

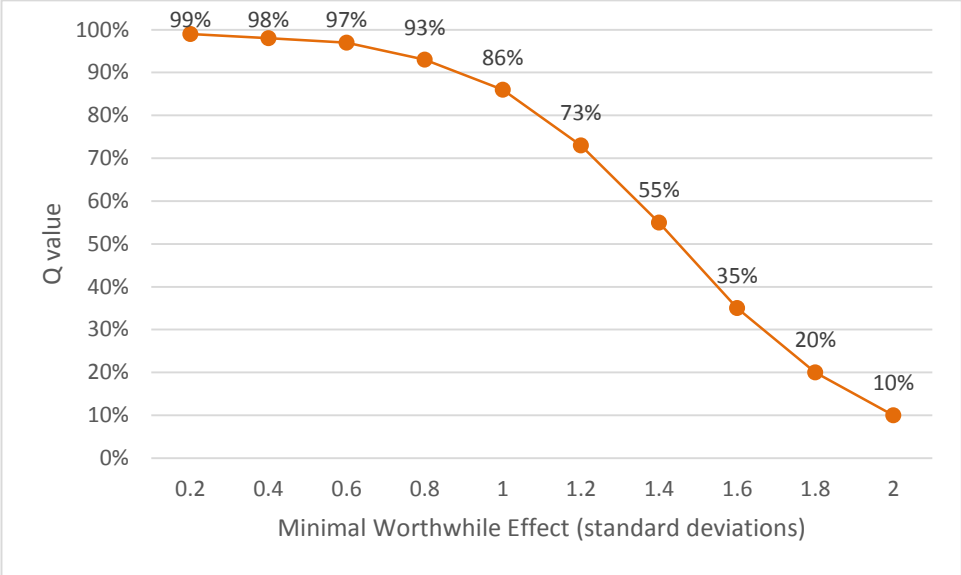


Figure 6.3 MCID scores calculated for S.Ds between pre- and post-intervention for overall dietary quality

Smoking and alcohol

Of the four participants that drank alcohol and engaged in the research at both pre- and post- time-points, two decreased their daily and weekly units while two increased the units consumed from pre- to post-intervention. The mean difference was 7.15 units a week (± 20.33 units). Similarly, for the two smokers involved in both the pre- and post-intervention research, one increased their daily and weekly smoking behaviour, while the other reduced their smoking habits between phases. The mean difference was -9.5 cigarettes per week (± 42.78).

A small number of participants (N=3) also stated that they had either stopped or reduced their smoking (N=1) and drinking (N=2) by the post-intervention stage, however these changes were not attributed directly to the programme

itself in two of the three cases, but it was said to be the result of a personal life choice. Abby, for example described her changing smoking habits thus:

> It was [child's name] really, because they were doing like a healthy smoking in school, and why it's bad for you and that. And one day he was like, "Mum, you know if you smoke you're going to die", and I was like, "Oh, my God". It was just like a bit of the shock factor sort of thing. It's not nice hearing your kids say something like that to you, so.... then I was using the e-ciggies still. I was using the puffer, so I stopped using that before the wedding.

Skills, knowledge and awareness of health

While not measured quantitatively, skills, knowledge and awareness of health, and weight loss were also discussed by participants during within mid- and post-intervention interviews or focus groups. Four out of the six participants interviewed mid-intervention suggested that they felt the programme had at that time provided them with opportunities to gain physical skills related to health and well-being. At this point, the focus of discussion was centred mainly around the acquisition of physical cooking skills gained through the Cook and Taste sessions. In relation to this, Sarah said:

> That's the whole reason of the Cook and Taste sessions. Why I love them is because they learn you to cook these type of meals. Because I wouldn't have had a clue before this: that you can just throw all veg in one pan and make some big meals.

At the post-intervention stage, nine participants also noted they had increased their knowledge and awareness of health since attending the programme, alongside the attainment of new cooking skills. Notably, the one participant who did not make reference to knowledge was classified as a 'low-engager' and had only attended two PA (yoga) sessions and one social coffee morning across the intervention period. As with the mid-intervention interview results,

the majority of comments were related to diet as in the following extract taken from an interview held with Sarah:

> I asked a lot of questions because a lot of people, it's like staff on the programme knew a lot of things with health and sports and things, and I never knew any of it. I didn't know how to come across it. Like you look up on Google, and it basically tells you a size ten's fat, so I knew never to look on Google, and it gives you the wrong diet where it makes you sick.

She then went on to say:

> On the programme I learned a lot. I know what foods to make, what types of exercises to do..So taking in all of that helped me a lot, because it was like, when I was out shopping, 'I'm not going to get that. I'm not going to do that type of sit-up because I know I might tear' [a muscle]. But it did help me so much, like the diet, like learning from other people, with the staff and not only the staff, people that were my friends on the programme learning me as well, with diets and exercising.

As well as enhancing knowledge, engagement in the intervention appeared to result in participants becoming more aware of their own health behaviour. During the mid-intervention interviews, three participants suggested that wearing the accelerometer (belt) before beginning the programme may have led to an increase in activity and extrinsic motivation for both parents and children, which may not have been representative of a typical week for families. For example, Emily said 'I think having the belt on made me go [on] more runs, and I did. It made me exercise more with the belt on. One child and one parent also noted that engagement in the programme/wearing the belt has positively changed their/their children's relationship with, and opinion of sport. Fiona, a ten-year-old child, said 'I didn't used to like sport. It was only when I joined this [the project] that I liked it….because it's more sport, and it got me more interested'. Similarly, at the post-intervention phase, three participants suggested that taking part in the research and in particular the EMA aspect,

made them more aware of their own health choices and encouraged them to make positive steps to improve their behaviour. Commenting upon her experience of the intervention, Lizzy said:

> I've been trying to be healthier and I'm a bit more aware, do you know what I mean? Like cutting out, because when I was doing them questionnaires, I realised how much Vimto I was drinking in the day. So I cut down to sugar-free as well, which is a little bit better, isn't it?

Weight loss or toning

Post-intervention, three participants discussed the weight loss and physical changes they had experienced related to their body weight or composition as a result of engaging in the project. This appeared to come as a surprise to one participant (Linda), who said: 'Yes, I was shocked how much weight I lost, because I didn't think I would have lost any'. While changes in weight were not specifically promoted by the intervention/staff on the programme, as can be seen from Figure 6.4, weight loss or toning was identified as a goal by participants from the start.

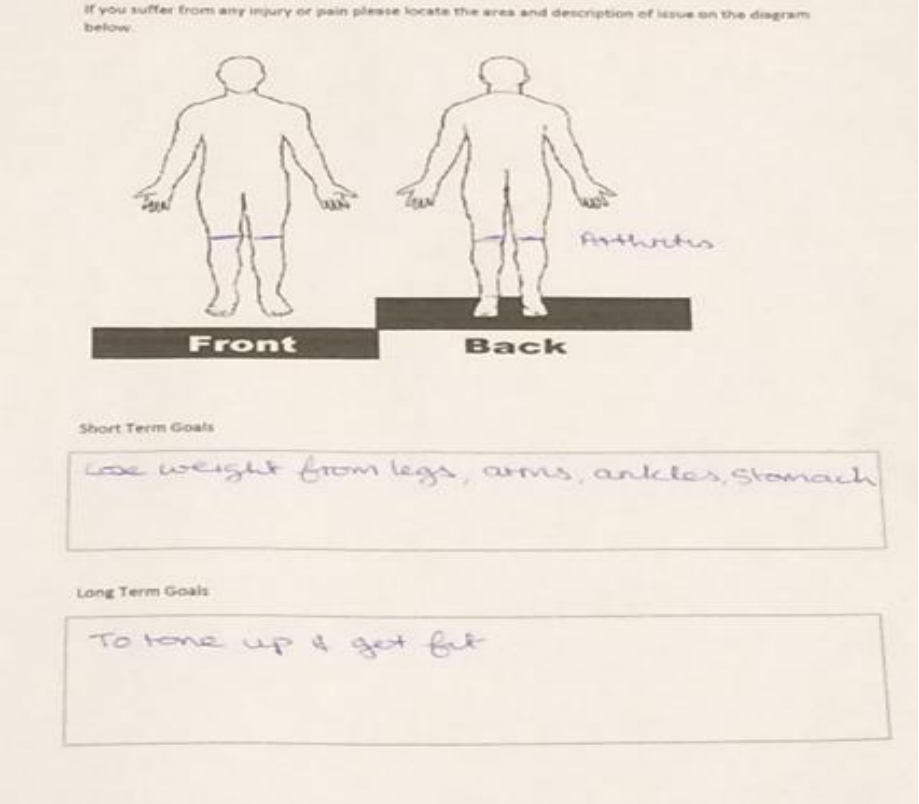


Figure 6.4 One participant's gym goals sheet from Week One of the programme

Psychological impact

Quantitative (WEMWBS) results revealed that the intervention had a significant positive effect on mental well-being. $F(2, 24) = 6.107$, $p = 0.007$, with scores increasing from 48.31 pre-intervention to 54.92 at the mid-intervention point, and then decreasing slightly to 53.00 post-intervention. Post hoc analysis using Tukey's test revealed that mental well-being scores were more positive mid-intervention than pre-intervention, and this difference was statistically significant, 95% CI [3.50 to 9.73, $p < 0.001$], Hedges $g = 0.65$ (which is a medium-large effect size), and from pre-intervention to post-intervention, 95% CI [0.36 to 9.03], Hedges $g = 0.48$ (which is a medium effect size). However, results from mid-intervention to post-intervention were not significant, 95% CI [-3.13 to 6.98]. The overall finding that the intervention led to improvements in mental well-being was supported by qualitative results though parents appeared to be more aware of these changes within the post-intervention interviews. At the mid-intervention phase, just one parent and one

child also talked about feeling happier since attending the programme. When describing the picture she had drawn during a mid-intervention interview, Fiona a ten-year-old child said: ‘I love it [The PFP]...I’ve been happier when I’ve been coming [to the sessions].’ One parent (Sarah), also suggested she felt ‘young again’ and was generally happier:

> I’ve had such a laugh on these programmes with everyone. There’s not one person that I dislike, or that I haven’t got on with and I’ve had such a laugh [with them], and it made me feel young again.

Figure 6.5 Fiona’s drawing in response to the instruction ‘Draw what you think of the sessions that you've been coming to at Everton’

These comments from Sarah suggest that the social environment and people on the programme was central to their enjoyment, and improved happiness, a point which was realised by three other parents. At this point, three participants, two of whom had a previous diagnosis of mental illness, suggested that they had experienced increases in their mental well-being and decreases in anxiety since attending the programme. Sarah, for example, explained how she now experienced fewer anxiety attacks as follows:

> It's like I've done a massive difference in my anxiety now. I don't feel there's going to be one coming on, like I didn't have an anxiety attack

when he banged his head now. That old me would have had a massive anxiety attack…And it feels a lot better for me now.

As Figure 6.6 indicates, at the mid-intervention time point there was a 99% chance that the intervention led to an increase of at least 3 points on the WEMWBS scale. At the post-intervention time point, there was a 79% chance that the intervention led to an increase of at least 3 points on the WEMWBS scale.

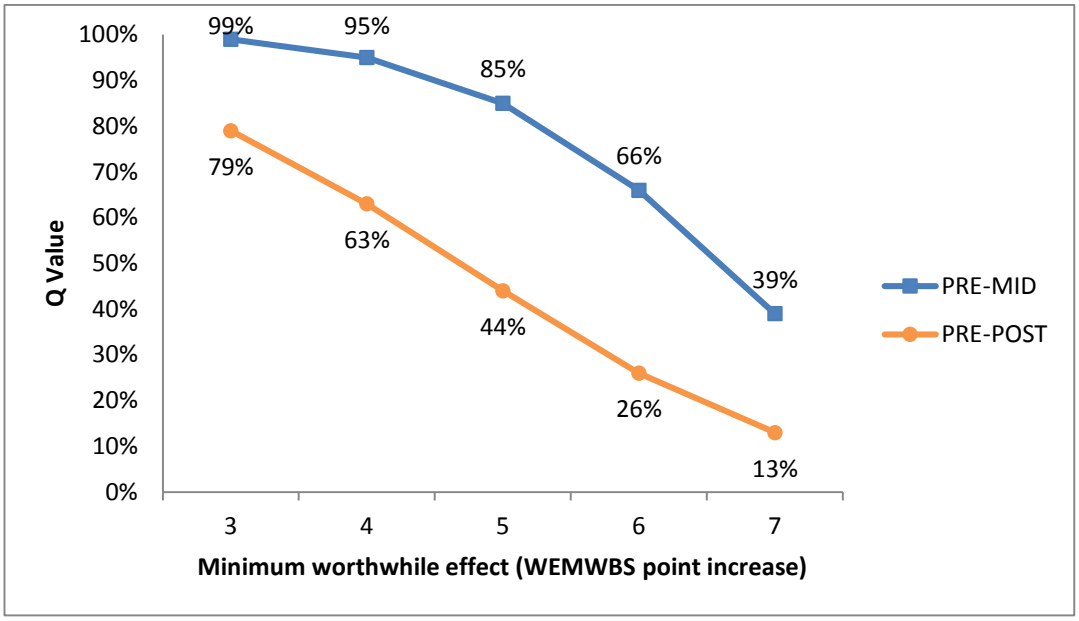


Figure 6.6 MCID scores calculated for increases of 3-7 points on the WEMWBS scale from pre-mid and pre-post intervention

Relaxation, 'me time' and focusing on the self

At the mid-intervention phase, four parents about how the programme, particularly the yoga sessions, as offered an opportunity for relaxation and 'me time', which was something novel for both single parents and parents whose partners were in full-time employment. Sarah, whose experiences of anxiety was discussed above, explained that yoga had also helped her better manage her anxiety:

> I love yoga. I've never done yoga in my life, and it's so relaxing, and with me suffering with anxiety, it helps so much. The whole programme, since I've started, I haven't had no anxiety, so for me it's getting out there and building my confidence back up, and makes me feel so much better coming to all the sessions and having some time to myself.

During the post-intervention interviews, the same four parents made reference to a shift in their priorities since attending the programme and noted that they were beginning to focus more on themselves, and their own well-being needs as individuals, since attending the programme. Sharon, who at the time experienced agoraphobia, explained her experience of this:

> I just think because of my illness…I tend to put people before myself…whereas now I'm starting to think. 'Now, this is my time'. You know, they're off to work or school or wherever. I've got time during the day or even after I've done their teas, you know. I've got time then to go and do what I want to do.

While parents talked about the relaxation and 'down-time' that the sessions offered, children's discussions within the mid-intervention focus groups were mainly centred around how they had had fun or enjoyed attending the sessions. When describing a picture he had drawn about his time on the project, Rick, a ten-year-old boy said 'Thumbs up! With two words under it. Amazing, and on me, the cooking session, saying "Yum, yum!"…Just because it's entertaining [the project]. And it keeps me occupied, and it's just fun'.

Figure 6.7 Rick's drawing in response to the instructions 'Draw what you think of the sessions that you've been coming to at Everton'

Self-confidence

Mid-intervention, three parents made particular reference to how the programme had made them feel more self-confident as a result of the social environment of which families were a part, including Sarah who said:

> It's boosted my confidence up so much since I've started. I used to be really quiet, but I've come out of my shell a lot, and that's being around other people that I feel comfortable with who've accepted me and things.

Another parent – Linda – similarly emphasised how the programme had improved her confidence and social relationships:

> I just felt, I used to feel down and fed-up, and I couldn't be bothered, but now since we're doing the course, I think it's been more feeling better about myself. I think it's because I do more exercise and I'm meeting people, to be talking to loads of people, getting out more. I feel more confident.

Both mid-intervention (N=6) and post-intervention (N=2) parents also explained that their children's confidence has also increased, which they related to children's improved self-efficacy in sporting situations. When asked to discuss her 10-year-old daughter Fiona during a mid-intervention interview, Sharon, said:

> Definitely [her] confidence has grown, and like I say, I've seen it in this gym that she's been going for a few weeks, and the difference from when she first started. We walked in, and had to walk out. She couldn't do it. And then she was given the last opportunity. She walked in, and she's doing things that she kept saying she couldn't do….Yes. But that's gone now. She seems to be, "Look at what I am doing", so she's more positive.

Social impact

Post-intervention, seven out of ten participants said they felt the programme had led them to get out of the house more. This was often related to session attendance, but in some cases (N=4), parents also suggested that attending the programme also led them to gain new ideas about activities they could engage in with their children outside of the sessions. Abby, for example noted how she had been encouraged to go for a walk with her child more regularly than previously:

> On the days that I did attend, normally I would have just like stayed in the house with the baby, and not done nothing. And like since doing that, I have been taking the kids, like I took the kids to Stanley Park the other day, and we walked right round it, and like picked acorns and pine cones. So I have been thinking of doing more stuff with them and that.

All participants interviewed mid-intervention (N=6) said they had made friends on the project and discussed the sociability generated by it amongst those in similar situations, as in the case of Sarah who explained:

> Because having kids, you lose a lot of friends and a lot of confidence with other people. Coming to these sessions I've made like close friends, and I'm so happy with that because I know I'll stay in contact.

Making friends on the project had a positive impact on parents' social life, particularly for unemployed mothers whose partners were in full-time work, or single parents who often did not have many friends in the local area. Donna described how her engagement in the project helped expand her social networks thus:

> Before the programme I just used to sit in, I didn't have any mates, and that was my constant routine. But now I've met a lot of people in here that I'm going to stay in contact with, especially [participant's name]. Especially her….and now I know that I can go out, and I can meet people and that people are willing to listen to me.

In addition, four parents noted that their children had made new friends in the local area as a result of attending the project sessions, including Emily, who said: '[Child's name] has really enjoyed it, and his friends are here from school, different friends. And he's made new friends while he's been here.' This was supported by the comments of three children, such as four-year-old Leoni who said: 'I've got a new friend, [child's name]. Relationship with project staff and volunteers were also positively praised by parents (N=5) and children (N=3). One parent, Stacey, said:

> All the staff, the volunteers, yourself, everyone has been great. Just very informal, relaxing. I wasn't expecting it to be as good as what they are. The way they're organised, the staff keep the kids entertained, and also adults having time away from the kids, but being in the same room, which is good as well.

Another parent also emphasised the benefit of knowledge and expertise of staff and volunteers on the project, including Sharon who felt that: '[volunteer's name] is good, but to be honest I think they're all quite special. They're all nice.

They all know their stuff. They do know their stuff!' These positive experiences also led two participants to suggest that they had been encouraged by the success of other likeminded friends on the programme to become more physically active, including Emily who explained that:

> I think that with having someone there to do it with in the gym and things, and yoga. I've never tried that before, which I love doing it. So the social side of it has helped as well, yes, definitely…..I like a goal to do it for.

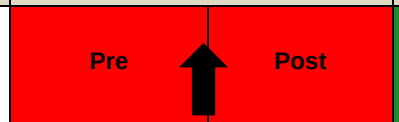
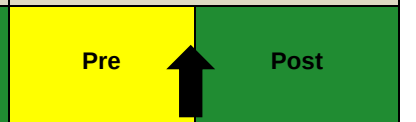
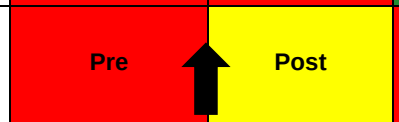
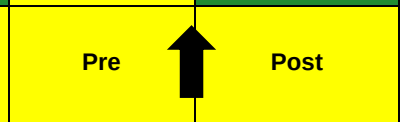
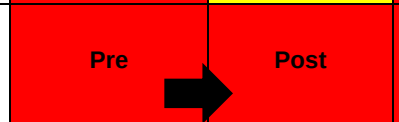
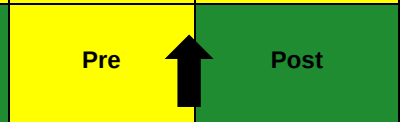
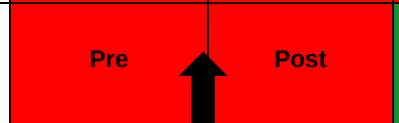
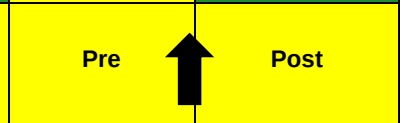
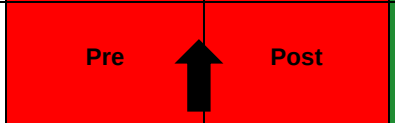
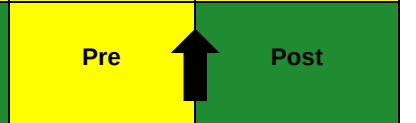
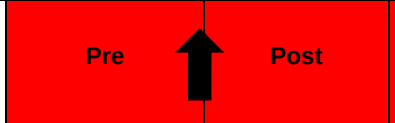
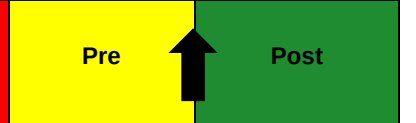
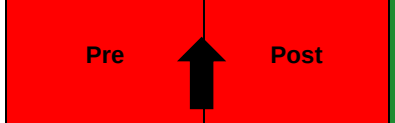
Results summary and chapter conclusion

This chapter presented the findings of Phase 2 of the research as part of the PFP, the methods used and an overview of all quantitative and qualitative data. Table 7.1 presents a summary of the physical, psychological and social impact at mid- and post-intervention time-points, Table 7.2 provides the quantitative results and changes each parent between pre-, mid- (mental well-being only) and post-intervention (represented by the black arrows). Summary models outlining all qualitative themes from both mid and post time-points can also be found in Appendix V. The next chapter builds upon the findings reported here by analysing data from Phase 3 of the PFP, including data derived from the 6- and 12-month follow-up.

Table 6.8 Summary of physical, psychological and social impact at mid- and post- intervention time-points

Time-point	Physical	Social	Psychological
Mid-intervention	Participants suggested that the programme provided them with opportunities and knowledge and had begun to encourage them to engage in more PA. In some cases this had changed their opinion of and relationship with PA.	Participants discussed making friends on the project and the fun element of the programme which had come from sharing the experience with new friends.	Participants talked about the programme offering time and opportunity for relaxation made them/their children feel more confident. Two parents also discussed feeling happier or young again.
Post-intervention	Quantitative and qualitative results suggested the intervention had a significant impact on overall dietary quality. Quantitative results demonstrated that the intervention did not have a significant impact on children's PA/sedentary behaviour, however all children were meeting overall PA guidelines prior to engagement in the intervention. Results of adult data, demonstrated that the intervention had a significant impact on the MVPA levels (achieved through bouts of >10 minutes) Participants felt the programme increased their awareness of health, led to increases in PA and decreases in sedentary time, particularly related to light and structured activities. Some participants also discussed weight loss and reductions in less healthy behaviours.	Participants discussed how the programme had positively impacted on their family relationships and provided opportunity to spend time together whilst getting out of the house more. Participants suggested they had made friends on the project/the project had a positive impact on their social life.	The intervention had a significant impact on mental well-being scores with scores increasing from pre- to post-intervention. Participants suggested they were beginning to focus more on themselves as individuals since attending the programme whilst also making specific reference to feeling more confident in social situations and feeling happier in their own skin. A number of participants suggested they had experienced increases in their mental-wellbeing and decreases in anxiety.

Table 6.9 Quantitative results for PA, mental well-being and diet and comparison to guidelines/averages

Participant name	PA	Mental well-being	Diet
Sarah			
Linda			
Sharon			
Stacey			
Emily			
Lizzie			
Donna			

= score increased between time-points

= score decreased between time-points

= score remained the same between time-points

PA

Meeting UK guidelines (at least 150 minutes of moderate-vigorous through bouts of >10 minutes per week)

Below UK guidelines (at least 50 minutes of moderate-vigorous through bouts of >10 minutes per week)

Below UK guidelines (less than 50 minutes of moderate-vigorous through bouts of >10 minutes per week)

Mental well-being

Above English average 52.3 >

In-line with English average (49-52.3)

Below Scottish average <49

Diet

Dietary quality score of 13 >

Dietary quality score of 9-12

Dietary quality score of < 9

(Score of between 5-15)

Chapter 7 : Phase 3 Intervention Follow-up

Introduction

As with Phase 2 (Chapter 6), Phase 3 of the project involved a number of quantitative and qualitative measures conducted with both parents and children at two main time points: 6 months post-intervention and 12 months post-intervention. This chapter presents the research results of Phase 3 which examined:

1) How effective is a community-based intervention – known as the People's Family Project at changing long-term family health and physical activity behaviours?

2) What are the core concepts and mechanisms which impact on the maintenance of behaviour change/regression back in to old behaviours on family health within the context of a health-based intervention?

In the time between the intervention finishing and the follow-up measures being conducted, contact with project participants was maintained through a series of social coffee morning/seasonal events (e.g. Christmas party or summer community health events). Participants were also invited to continue attending weekly yoga sessions which were held at Goodison Park for staff and local residents, however these sessions which were previously offered for free now incurred a small charge (around £3 per session).

6-month qualitative follow-up

Six months post-intervention and during the second week of Easter school holidays (2015), families (N=7) were invited to the EHU for a campus tour and to engage in a number of family-based games and activities. At the event, three children's focus groups were conducted with children divided into groups of three to four children depending on age (younger children aged four and

five, mid-aged children aged 6-9, and older children aged 10+). Child-only focus groups, rather than individual family focus groups, were adopted because, at times during the post-intervention interviews it was felt that parents influenced children's answers, either by interjecting or children appearing to look to their parents for guidance before answering. It was therefore proposed that allowing children to participate with peers their own age would encourage all children to engage in the research process and have their voices heard in a comfortable and supportive environment (Mauthner, 1997), whilst avoiding the power-imbalance of a one-to-one interview between an adult and child. This approach also appeared to jog the memories of some children when they heard others talking about their opinions and experiences of the project (Hill, Laybourne & Borland, 1996).

Write and draw techniques were again adopted to encourage children's engagement in the focus groups. Children were asked to draw a picture related to: (i) the sessions they attended as part of the PFP, (ii) the activities they had participated in since the project had finished and (iii) anything they had been doing to 'be healthy'. The pictures children had drawn were then used to facilitate discussions about the project and its impact on their PA, diet and mental well-being. The focus groups lasted between 25 and 40 minutes and full versions of the children's focus group guides from can be found in Appendix IX.

Parent one-to-one interviews also took place the following week at Goodison Park. These interviews followed the same general interview guide as the post-intervention interviews (Chapter 6), were individualised based upon findings from Phase 2, but focused upon changes to health behaviours in the last 6 months (see Appendix IX).

12-month quantitative follow-up

Quantitative data generation in Phase 3 took place 12 months post-intervention (October 2015) during school half-term holidays. At this time point, repeat measurements were conducted for all quantitative methods

(accelerometer, EMA and WEMWBS) as conducted in Phase 2 (both pre- and post- intervention). All research devices and paperwork (e.g. research consent forms, information sheets and WEMWBS questionnaires) were given to parents (N=7) at a social coffee morning session which was held on the morning of the day preceding the start of the eight day period. To mark the end of the final research phase, parents and children were invited to attend a final celebration event which was held at Goodison Park in the school autumn half-term 2015. During this event, children's focus groups were conducted and parent one-to-one interviews were scheduled to take place the following week, details are discussed below.

12-month qualitative follow-up

Parent one-to-one interviews took place at Goodison Park in the first week of November 2015, exactly 12 months after the post-interview interviews which took place in Phase 2. The questions included at 12-month follow-up were the same questions posed at 6-month follow-up, with additional questions related to the completion of quantitative research methods. Two children's focus groups were also conducted during the 12-month follow-up celebration event with younger (under seven years old) and older children (over seven years old) participating separately and lasting between 25-40 minutes. As with the 6-month follow-up focus groups, write and draw techniques were used to facilitate discussions, with children being asked to draw two pictures: (i) to illustrate children's understanding of the word 'health', and (ii) to demonstrate any activities they had been taking part of since the project had finished or anything they had been doing to 'be healthy'. Copies of the 12 month follow-up interview guide and children's focus group guide can be found in Appendix IX.

Phase 3 qualitative data analysis

Qualitative data for 6- and 12-month follow-up were analysed separately, but many of the same themes emerged. Adult and child data were also analysed separately. As in Phase 1 and 2, all interviews were recorded with permission

from the participants and transcribed verbatim for analysis. NVivo 2.0 was used to collate the interview transcripts. Data from each time-point were analysed separately using a manual thematic analysis procedure and a combination of inductive and deductive techniques as detailed in Chapter 5.

Phase 3 quantitative data analysis

All quantitative data were initially scored and prepared for analysis as in Phase 2 (see Chapter 6). Data were analysed using IBM SPSS Statistics Version 22 (IBM Corporation, New York) and statistical significance was set at $p \leq 0.05$. The same data analysis procedures as adopted in Phase 2 were used in Phase 3, however differences between pre-intervention and follow-up were explored (as opposed to pre-post differences which were investigated in Phase 2), details of which can be found in Chapter 6. For diet and PA data, where data were considered to be normally distributed, pre-follow-up differences were assessed using paired (dependent) t-tests. However, where data violated the assumption of normality, a Wilcoxon Signed Rank test (the non-parametric equivalent) was used. For WEMWBS data, between-group differences (pre-, 6-month follow-up and 12-month follow-up) were tested using ANOVA. Where statistical significance was found, confidence intervals were also reported. In addition, effect sizes using Hedges *g* (parametric data only), and Q values (minimal clinical important differences), were also calculated. Descriptive and frequency analysis was conducted on smoking and alcohol data and used to describe provide further contextual information on health behaviours of families.

Phase 3 results

Follow-up sample characteristics

All seven families who met the minimum inclusion criteria for Phase 2 quantitative data analysis procedures participated in, and met the inclusion criteria for all elements of PA, WEMWBS and EMA data for Phase 3 of the study (12 month follow-up). Similarly, seven parents took part in follow-up

interviews 6 and 12 months post-intervention and all of these had engaged with the programme well having attended between 11 and 58 sessions out of a maximum of 68 sessions on offer over the 12 weeks. At 6-month follow-up, all children participated in one of three children's focus groups, the first consisting of four children aged between three and six, the second consisting of four children aged between eight and eleven, and the third consisting of two children aged 10 and above. However, since these children were back at school in the week following the 12-month follow-up, only two focus groups (one consisting of four children aged 5-11 during a celebration event, and the other with two children aged 6 at Goodison Park at a later date) were conducted at this point.

Physical impact

Physical activity and sedentary behaviour

The intervention had no significant impact on MVPA 12 months post-intervention. (Z = -2.20, *p* = 0.826), but median scores did demonstrate a slight increase in MVPA from pre-intervention (5.43 minutes per hour) compared with 6.07 minutes per hour at 12 month follow-up. As in Phase 2, while none of the adults in the study met the guidelines when the PA was only totalled according to bouts of >10 minutes, the mean MVPA time achieved through bouts (>10 minutes) increased from 18.30 minutes ± 16.70 pre-intervention to 33.53 minutes ± 21.91 at 12 month follow-up.

Results of the adult data demonstrated that the intervention had a significant impact on the MVPA levels of parents after 12 months (achieved through bouts of >10 minutes). t(6) = -2.74, p = 0.03, 95% CI [-29.02 to -1.64], Hedges *g* = -0.73 (which is a medium-large effect size). The mean number of moderate bouts of >10 minutes also increased from 0.84 bouts pre-intervention (± 1.07) to 1.65 bouts at 12 month follow-up (± 2.04). The total time spent in moderate bouts, per week also increased from 25.48 minutes pre-intervention (± 13.66) to 34.58 minutes at follow-up (± 22.09). However, the average time spent per moderate bout decreased from 13.15 minutes pre-intervention (± 1.06) to

12.39 minutes post-intervention (± 1.23). While participants did not engage in any vigorous bouts of activity pre-intervention, three adults (43%) engaged in vigorous bouts at follow-up (0.10 ± 0.15) which were on average 15.53 minutes in length (± 6.82). As Figure 7.1 indicates, there was a 97% chance that the intervention led to an increase adult MVPA of at least 0.2 SD, while there was a 82% chance that the intervention led to an increase in adult MVPA of 0.6 S.D. However, there was only a 56% chance that the intervention led to an increase in adult MVPA of 1 S.D at the 12 month follow-up point and a 2% chance that the intervention led to an increase of 2.0 S.D.

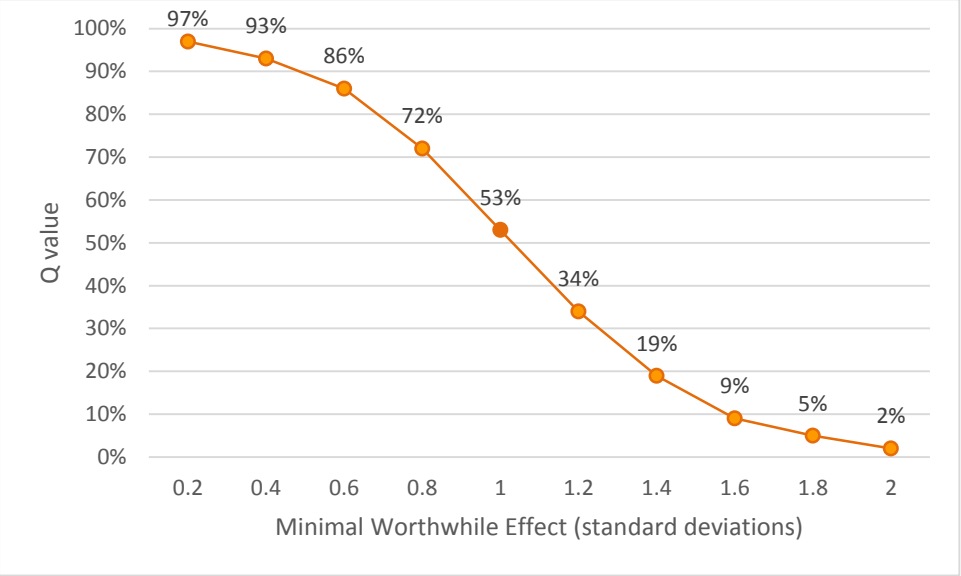


Figure 7.1 MCID scores calculated for S.Ds between pre-intervention and 12-month follow-up for adult MVPA (bouts of <10 minutes)

Results also showed that the intervention had no significant impact on overall PA (Z - -0.22, *p* = 0.826), but median scores increased slightly from pre-intervention (19.14 minutes per hour) to 20.67 minutes per hour at 12-month follow-up. While the mean number daily moderate and vigorous activity bouts of activity for adults were higher at 12-month follow-up compared to pre-intervention, the mean number of daily light bouts of activity was lower (0.09 ± 0.19) compared to pre-intervention (4.70 ± 4.14). The total time spent in light bouts of activity was also lower at 12-month follow-up (19.5 ± 3.25) than pre-intervention (69.77 ± 50.38), but the average time spent per light bout of activity was higher at 12-month follow-up (14.05 ± 4.45) than pre-intervention

(12.76 ± 1.40). During the 12-month follow-up interviews, four parents suggested that while their PA levels had increased as a result of the intervention, they were engaging in significantly more PA during the intervention period and the time immediately after this but their PA had dropped off somewhat in recent months. For example, Stacey said:

> My idea was [after the sessions finished], I was going to get my bike out and start going, because we'd been doing the bike rides. But again, I think it was because I was on my own. I said all these big ideas, "I'm going to do that", and I never, ever did it, because I think because I was on my own going out….and while the sessions were on I knew I had to go that time, yes. But give me all day, and I'm like, "Well, when shall I go?" I just mightn't get there.

Despite these revelations from some parents. As in Phase 2, all participants suggested that the programme had led to some long-term changes in their PA. This was particularly the case for light activities such as walking (6-month follow up [N=6] 12-month follow-up [N=5]) and unstructured individual activities (6-month follow-up, N=6,) such as exercise DVDs or jogging. Commenting on her use of DVDs for PA, Sarah said:

> The Insanity, the abs one. We do that of a night, and we also got a yoga DVD, so we do yoga now. But I can see it [the weight] coming off, and even [child's name], when I was getting dressed. I don't tend to get dressed in front of my kids, because with having a boy I don't want him to look at me like that, but [child's name] actually said to me the other day when I was getting in the bath, she went, "Mum, you've got a skinny hip", and I was like, "Thank you". I just felt good, and then she was like, "Your bum's big", and I was like, "That's good. Thanks, [child's name]".

Four participants also suggested that they felt they were engaging in more exercise, such as going to the gym or yoga classes, 6 months post-intervention. Linda, for example said:

> I've enjoyed it, to be honest, because I've met more people, because I joined yoga class, and when the programme finished I still carried on doing the yoga, which I enjoy going every Wednesday, because it's relaxing and chills me out.

At 12 months post-intervention, three participants discussed how they had now joined a gym, including Sarah who said: 'I said I was scared about joining the gym in public. I also joined the gym two months ago, and I do go like three times a week in the mornings when my kids are in school, and that's a membership, and I'm going to keep to that.' When asked why she had been able to make this positive step in the last few months, she went on to say:

> I think it was all the gym here, to be honest. It was the lads and the programme in the gym, because I've never been to the gym in my entire life until I came to this programme, because I've always thought about men in the gym, and staring, and going on my own, and everything makes me so paranoid and anxious. But once I went to the gym with Everton, it was totally different.

Similarly in all three children's focus groups (N=7 children), the children particularly explained that they and their parents has increased their PA. In relation to this point, four year old Leonie said 'I've drawn my mum with weights in her hands and I've drawn me with long hair, because my mum, she exercises so much when she comes to the sessions…I do sit ups and star jumps in the bedroom with my Mum.'

Figure 7.2 Leonie's picture in response to the instruction 'I want to you to draw what you think about the PFP, so the sessions you came to at Everton with me and your Mums and your brothers and sisters.'

During the 6-month follow-up interviews, two parents noted how children's perceptions of sport and PA had changed as a result of the programme and had motivated their children to participate in PA. One parent – Sharon – described her daughter's increased engagement in PA thus:

> She does run. And I think at the time she didn't really understand that sport could be fun, as much as what she has done through the project, and how much she's enjoyed it, whereas I think that's changed, her mind-set. She wants to be healthy, she liked meeting the other kids, she liked the sessions, the activities. It got her being more-sporty, more outgoing.

Comments from Sharon's daughter, Fiona, also mirrored these suggestions when she said: 'I didn't used to like certain types of sport, because I don't like all sports but I like football and I've been getting more into football [since the project]'.

Results of a Wilcoxon signed rank test showed that the PFP did not lead to a statistically significant change in sedentary behaviour after 12 months (Z = -1.35, *p* = 0.1780) and median sedentary time (per hour of time) was 37.37 minutes pre-intervention, compared to 40.34 minutes at the 12-month follow-up time point. However, the mean number of daily sedentary bouts of >10 minutes reduced from pre- (2.77 ± 1.18) to follow-up (2.54 ± 1.32), and the total time spent in sedentary bouts also reduced from 37.81 minutes pre-intervention (± 18.17 minutes) to 33.61 minutes at follow-up (± 17.08). The average time spent per sedentary bout also decreased from 11.80 minutes pre-intervention (± 3.22) to 10.83 minutes post-intervention (± 2.98). Two parents suggested qualitatively that the aforementioned changes in PA had helped reduce the amount of time their children spent engaging in sedentary, screen-based activities such as watching TV. Talking about her son's leisure time activities during the 6 month follow-up interview, Emily said: 'Just because he's getting into his football and that now, and he's asking can he go and play football instead of staying in on the computer'.

Diet

The intervention did not have a significant impact on overall dietary quality 12 months after the intervention *t*(6), -0.881, *p* = 0.412), however mean dietary quality scores increased from pre-intervention (10.04, S.D. 1.86) to 12-month follow-up (10.59, S.D. 2.53), Hedges *g* = -0.23 (small effect size). As Figure 7.3 suggests, 12 month post-intervention there was a 63% chance that the intervention led to an increase in dietary quality by 0.2S.D, a 25% chance that the intervention led to an improvement in dietary quality by at least 0.6S.D, but only a 6% chance of an improvement in dietary quality of at least 1S.D.

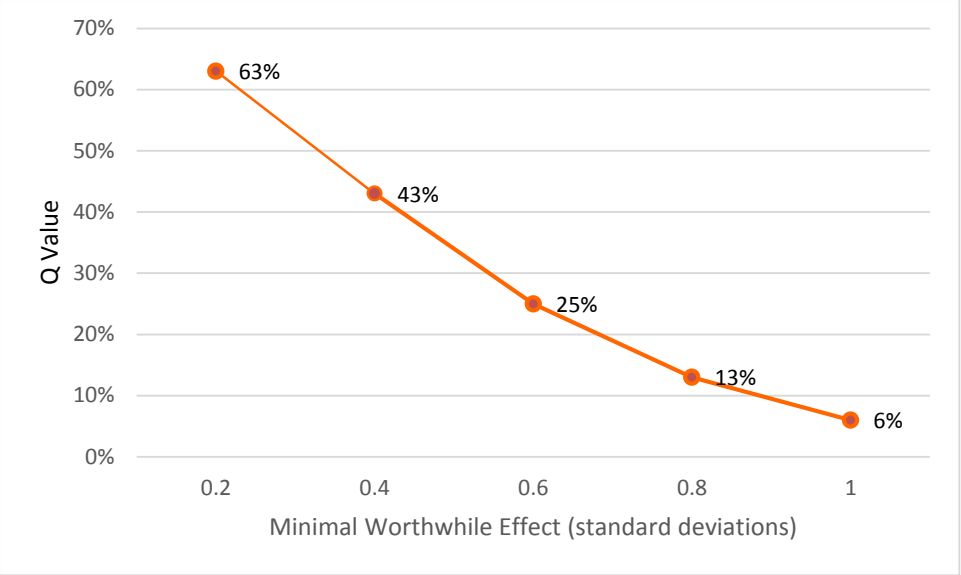


Figure 7.3 MCID scores calculated for S.Ds for overall dietary quality between pre-intervention and 12-month follow-up

Notwithstanding the lack of statistical significance, all seven parents and their children noted during both the 6-month follow-up and 12-month follow-up interviews that they had improved their diet as a result of the programme, and had also been successful at maintaining these changes after the sessions had finished. Six parents made specific reference to increased fruit and vegetable consumption during the two interview periods. For example, Emily said during the 6-month follow-up interview: 'well, I haven't been eating chips, I don't eat takeaways. I'm just eating chicken and salads and vegetables, and I wasn't before that…I eat loads of fruit and veg now. Yes, loads. All as I've got in the house is fruit and veg'. Similarly, Rick, a ten-year-old child (focus group two) said: 'I'm drawing fruit. Because I've been eating more fruit since I've been on the belt.'

At 6-month follow-up five parents referred to reductions in unhealthy food choices such as the consumption fast, convenience or junk food and suggested that their preferences for this type of food had significantly reduced since beginning the programme. Reflecting upon her previous diet which included the consumption of oven chips, Stacey said: 'I really hate oven chips now. Is that mad? And yes, I used to get them once a week but I just don't like the taste of them, because I think I know what they are'. By the 12-month

follow-up interview, six of the seven families also indicated that these changes in diet had become part of their daily life and they were confident that they would continue to maintain these changes in the future. In relation to this, Emily said: ‘Oh, I would never stop it now. I wouldn't. Definitely not. Because just like it, all three of us just like it now’.

During both the 6-month and 12-month follow-up interviews, three families also noted that they were drinking more water when previously they would have consumed more sugary alternatives such as fizzy drinks or cordials. For example, during the 6-month follow-up interview, Linda said: ‘I just started drinking loads and loads of water. I drink like two bottles a day now instead of tea and juice’. At the 6-month follow-up point, five participants suggested that they were engaging in more home cooking and were more aware of the nutritional content of their food, including Sharon who commented that her family was now consuming:

> Different fruit and veg, and more fruit and veg. I don't throw anything away. I throw them into the pan and make a soup, which I've just done with all my leftovers, but they're family-friendly as well, so a lot of my meals, the kids eat, like you reduce fat, and looking at the fat content in the food and stuff like that. So it's all relatively healthy what I give them.

This was consistent with the 12-month follow-up results, with five families making reference to an increase in home cooking having developed their knowledge of skills and recipes on the programme. Talking about this in her 12 month follow-up interview, Emily said:

> I do like homemade shepherd's pies and all that, which I did do, but not as much. It's like everything's homemade now, from scratch…Just because that helped me learn, and the recipe books and all that. I make my own mackerel pate and all that now from that programme, yes. And it's gorgeous.

This was also the case at the 12-month follow-up point, however as well as making reference to the impact on the dietary choices of other family members, two parents also suggested that the project has positively impacted on the PA of other family members. In relation to this, during the 12-month follow-up interview, Sharon said: 'When I go swimming it's sometimes on my own, or with family, Fiona, my partner, and all the others come as well, so it's like a family thing now too. Five parents also referred to their children being more involved in food preparation at both the 6- and 12-month follow-up stages, which had encouraged them to try new food, generally vegetables. In relation to her six- year-old daughter, Lizzy said:

> She tries a lot more stuff. She would never have ate that curry and stuff like that, or even that soup last week because of all the veg, she loved that, so she does try a lot more stuff. But it's just getting her to cut out the salt. And it's just because she's cooking it herself, and she's listening, and other kids are doing it as well, and that's what she's just taken it in. And she loves you as well, so you only have to say something to her, and she'll do it.

Similarly, when talking about her experiences on the project and how her change in diet had also impacted on her health, Emily said:

> Emily: Definitely, yes. I've lost weight, and I have met new friends, doing the cooking and things like that, met all them. Going to the university last week was brilliant. I loved that, really good. I think I've done really well. I can feel it in clothes that I'm putting on, and things like that.

Children also made reference to their role in food preparation since attending the project, and especially how they had tried new food types which they would have previously been reluctant to try. Within the older children's focus group at the 6-month follow-up time-point, 10-year-old Fiona said: 'I didn't like all the foods we've been making, like because of the stuff in it, whereas I liked it because I was trying it…Beef goulash. I've never tried that. I'm going to try the soup. Everything else which we've cooked.' Three participants and one child

also made reference to positive dietary changes made by other family members who did not attend the project sessions. This appeared particularly related to the role played by female parents in taking responsibility for food preparation in their households, as in the following example taken from an interview with Emily:

> He [her partner] doesn't eat as many chips and things like that anymore, because I don't make them, so he can't eat them. Yes. The whole household's changed…We are a lot healthier as a family, the whole family, even [partner's name] where they're not doing the project.

Skills, knowledge and awareness of health

At the 6-month follow-up point, five participants suggested that they had an increased awareness of health, particularly in relation to diet and exercise. Donna, for example said that:

> I know coming to this [the programme], we'd have days out together and learn new stuff. That's one thing, we have learnt a lot about being a healthy family.

During the 12-month follow-up interview, all seven parents made reference to the knowledge of health they had gained about diet and healthy eating while attending the project. Sharon also discussed how the project had helped her to become aware of the volunteer programme which EitC offer. She described her experience as follows:

> I was telling them [other participants] about the project the other week, because they were asking how come I started the volunteering, because we had a new lady starting…if we hadn't come to that day session, then we wouldn't have known, and God knows where we would have been.

Indeed, Sharon – and two other parents discussed how the programme had supported them to return to volunteering or paid employment, including Sharon who was volunteering on a women's mental health programme:

> It's two hours a week. It's working with women with mental health issues, and I only started about four weeks now…. Being on the project, seeing what else is out there. I didn't even know, I hadn't done things like that. So it was the mental health awareness sessions that we done, and I thought yes, I want to be a part of that…I'm made up, made up I done it, and I just love it, absolutely love it. I love being able to go to work, getting back to the way I was.

Despite these improvements in a parent's lifestyles, quantitative results from the WEMWBS questionnaire revealed that the intervention did not have a significant effect on mental well-being at follow-up (6- and 12-months post-intervention), $f(2, 14) = 3.188$, $p = 0.07$. But, 6-month follow-up scores were 5.25 higher than pre-intervention (Hedge's $g = -0.44$, small-medium effect size) and 12 month follow-up scores were 4.25 higher than pre-intervention scores (Hedge's g = -0.46, small-medium effect size). As Figure 7.4 indicates, at the 6-month follow-up point there was a 91% chance that the intervention led to an increase of at least 3 points on the WEMWBS scale and at the 12 month follow-up point, there was a 68% chance that the intervention led to an increase of at least 3 points.

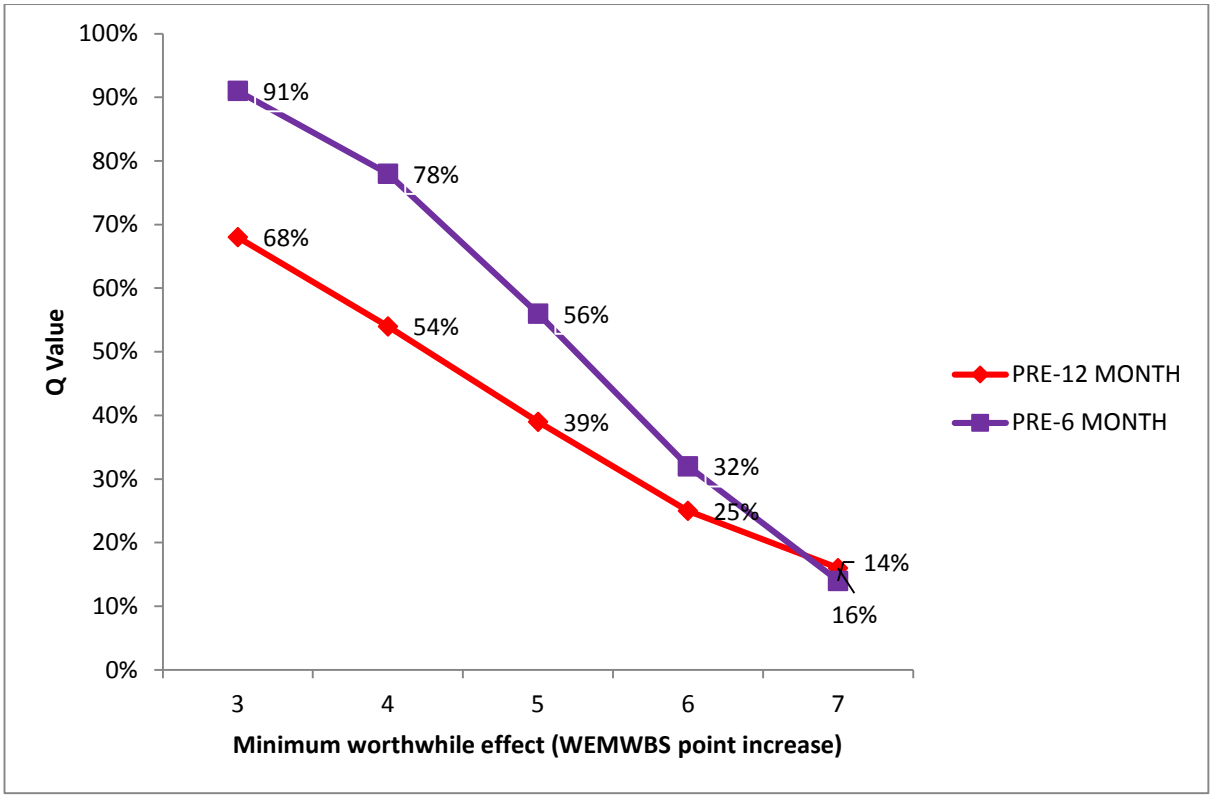


Figure 7.4 MCID scores calculated for a WEMWBS point increase of 3-7 between pre-intervention and 6- and 12-month follow-up

Supporting the MCID scores, at both the 6- and 12-month follow-up time points all parents suggested that they felt the programme had had a positive impact on their overall mental well-being. After 6 months of completing the intervention, four parents noted that they focused more on themselves and their own needs and well-being since attending the programme, while at the 12-month follow-up time point this was discussed by three parents. For example, in her 12-month follow-up interview, Sharon said:

> I wanted to do voluntary work. I've gone and done it, and I want to go out swimming, and I am, I'm thinking more about myself, rather than putting my kids first. I mean, they'll always come first, but...It's just realising. I'm a Mum, and I'm a partner, but I'm me as well, and I've got to have time for me to do what I want to do, plus I get the support, so I'm lucky in that way.

The concept of happiness was also discussed, with a number of parents noting

they felt happier since becoming involved in the programme and in the months following the intervention (6 month follow-up N=3, 12 month follow-up N = 5). During her 12-month follow-up interview, Donna said ‘my life now is a lot better and a lot happier, bubblier. I'm like a different person in a way. I'm not so withdrawn. Is that the word?’ All three parents who mentioned happiness at the 6 month follow-up stage (two of whom had a previously diagnosed mental illness), also suggested that they had experienced improvements in their mental well-being and reductions in their anxiety levels. Sarah, for example said:

> It's [the programme] has stopped my anxiety slowly, and I haven't had anxiety like eight months. So it's like a big deal for me. But it's seeing the kids come out of their shell which makes me happy, so treating them's like a big thing for me.

These notions of improvements in mental well-being were also apparent at the 12 month follow-up stage. Both parents related this to being around supportive people (other families and staff) on the programme which had helped them to become more confident, as Sarah explained:

> When I came on the programme I got so much confidence and built so much hope up and things, with my anxiety. I lost my anxiety. I wasn't thinking about that then, and when my son started nursery, I actually wasn't going to put him in nursery till he was three, four, at the normal age, but with Everton, after the programme, and everyone was talking and things, and they're Mums, and they were like, "Well, my children are in nursery", I put him in, and it's been the best thing I've ever done, because it's helped my anxiety, and I know he's safe.

Mental well-being and happiness were also discussed in all three children’s focus groups (6 month follow-up), with four children noting they felt happier since attending the project. For example, six-year-old Indie said: ‘Because I exercise and do sit ups and jump and also I’ve got new friends which makes me happy inside and I jump on the spot.’

Figure 7.5 Indie's picture in response to the instruction 'I want to you to draw what you think about the PFP, so the sessions you came to at Everton with me and your Mums and your brothers and sisters.'

Self-confidence

All parents (N=7) also discussed how they now feel more confident in specific social situations. When asked why they felt the programme had led to these increases in self-confidence, parents talked about how they felt more comfortable with the other people (both other families and staff) on the project which had allowed them to be themselves, when attending project sessions and in other social situations. One child, ten-year-old Fiona also discussed her mother's improved self-confidence, particularly in relation to PA. At 6 month follow-up, Fiona said: 'I think she [her Mum] feels a hundred times different, because all the weight and stuff and I think it's made her more confident to like get ready to ride a bike because she hasn't rode one for ages.' The majority of participants (6 month follow up - N=5, 12 month follow-up – N=4) also made specific reference to increased self-esteem or self-image, as a result of attending the project. During her 6-month follow-up interview, Sarah, for example, explained how the programme had improved her 'morale' thus:

> My eating raised my morale…but when I'm standing on them scales, and I'm seeing the weight drop, it makes me feel, "I am actually little, and I am skinny, I am not fat, I am prettier". It boosts me a lot more, and I bought a bikini. I haven't worn a bikini since I was sixteen…And I got in the pool. I just didn't care. I just didn't care what anyone thought. I just felt like me, I felt like a woman. And then we also went to the races. I felt like a lady. I cried, I actually cried.

Five participants (6-month follow-up) also noted that they felt more motivated and positive about life in general, which led them to become being more physically active and engaging in more activities with or without their children. Lizzy, described her feelings about this as follows:

> It's only in the few months or something I've been feeling really this positive about myself….It's just friends, and I'm just starting to appreciate what I have, and just focusing on stuff like that. That's why I like going the yoga and that, sort of like meditating.

Social impact

Six out of seven parents said they felt the programme had encouraged them to get out of the house more six months on, including Emily, who said:

> It's just got me out of the house more, instead of just sitting round and cleaning up. I just want to get out and do something else. Well, we used to do it anyway, but I don't know, I think we do it a lot more now. We'll go to the park after school and play football, and we'll all have a game of football round the park with the dog and whatever.

Getting out of the house was also related to parents perusing employment or volunteering opportunities and taking trips with their children. During a 12-month follow-up interview, Donna said 'I just enjoyed the programme, just enjoyed the staff, meeting the people. I just like make lots of friends now, and

I'm going out more. I'm enjoying it…I seem to be going further afield. I went over the water on my own with [child's name]'.

The friendships enhanced through the project was a theme identifiable in the comments of other parents, including Sarah who said of her fellow peers:

> They were good to me on the programme. They were never them type of women that look down their nose at me or kind of looked at me in a different way as a Mum. They welcomed me with open arms…especially with [participant's name]. She treated me like a daughter…They all did say at the end, and they wanted my number, and they wanted to stay in contact. That made me cry more than anything, to know they wanted to keep in contact with me, it made me feel special. It did make me think: that was the day that made me think I must actually be a really nice person.

Sarah then went on to say:

> So that made me want to stay in contact with them, with them being like Mumsy, and it just made me feel like a real Mum and things. It made me feel like a part of a little family as well. So I'll always stay in contact with them.

The social element of the project and 'making friends' was also discussed in all three children's focus groups, as was spending more time with friends from outside of the project, and Sharon recalled how she'd got back in contact with old friends whom she had not seen for some time as follows:

> Just going for a drink, not so much with friends, but seeing friends out, knowing people would be out, people I haven't seen for years, who I grew up with, things like that. Talking to people on Facebook, actually messaging them, and I've met up with a couple of friends actually, tell a lie, and we've had coffee, school friends (6-month follow-up interview).

That the project encouraged socialisation amongst friends outside of the project was discussed by Sharon at 12-month follow-up as well. She said: ‘I didn't socialise at all [before the project started]…but yes, I do now. I got to my mate's for coffees, and I've been out for a drink, going to parties, things like that.’ For Sharon, and other participants, improved family relations was also associated with their increased prosperity to ‘go out’ and socialise. Sharon explained that:

> Because we're doing more, talking more. We've done things together, and that's what the project helped with….My relationship with the baby, her growing up, wanting to be a better parent for her. We're closer. We do a lot more together as a family. I mean, we always did do, but we tend to do a lot more, like my [older] son and his girl[friend], who come to the beach with us, and I can see the relationship between [child’s name] and her brother as well, where there wasn't really one. But they'll play fight with each other, and as soon as he walks in she runs to him, and they're kissing and loving each other, so they've become closer.

Lizzy also explained that she would engage in more activities with her daughter:

> If anything, me and her are even closer…Just because we're doing stuff together, a bit more active stuff...I mean, we'll always draw together, we'll always do stuff like that, but it's just doing the other things, other bits of things together and that.

Undertaking PA with children was also positively reported by other parents, including Sharon who recalled her experience as follows:

> Fiona follows me and has supported me all the way through. As soon as I pick her up on a Thursday, she comes home and the first thing she says, "How did you get on?" Every Thursday she says, "Good luck, Mum". Every week. Which makes me feel good. I know she's dead proud…But yes, she's spurred me on. But I can't say enough about the

> project though, Laura. It's the family thing. Like I say, I think if it was just for me, I don't think I'd have done it. I don't think I'd have been as successful, changed my life round the way it has (6 month follow-up).

Commenting on the motivation she received from her 5-year-old daughter in her home-based PA at the 12-month follow-up point, Sarah said: 'Leonie helps me out sometimes, like doing little things, and if I can't do it, she'll like, "Mum, do it now. You've got to do it, Mum"'

Results summary and chapter conclusion

This chapter consisted of an introduction to Phase 3 of the research as part of the PFP, the methods used and an overview of all quantitative and qualitative research findings. Table 7.1 presents a summary of physical, psychological and social impact at 6- and 12 -month follow-up time-points represented by both quantitative and qualitative group analysis as presented in the previous section. Table 7.2 provides the quantitative results and changes each parent involved in the analysis made between pre-, 6 month follow-up- (mental well-being only) and 12 month follow-up represented by the black arrows. Summary models outlining all qualitative themes from both 6 and 12 month time-points can also be found in Appendix V. In the next chapter, three key case study participants related to physical, psychological and social health will be presented to provide a more in-depth overview of some of the families involved in the PFP and the impact of the intervention on their health.

Table 7.1 Summary of physical, social and psychological impact discussed at 6- and 12-month follow-up-

Time-point	Physical	Social	Psychological
6-month follow-up	The majority of participants suggested they had an increased awareness of health since attending the programme. All parents noted they had improved their diet as a result of the intervention, particularly related to fruit and vegetable consumption but also reduced consumption of unhealthy food. Participants also suggested they now engage in more home cooking, often with their children and are drinking more water. Participants also felt the programme led to increases in PA and decreases in screen-time, particularly related to light and unstructured activities and had changed children's perceptions of sport and PA. Some participants also discussed weight loss, improvements in sleep and increases in energy and progression back in to employment/volunteering.	All participants discussed how the programme had positively impacted on their family relationships and provided an opportunity to spend time together. Participants suggested the project had led to them getting out of the house more and provided them with opportunity to engage in social exercise. All participants said they had made friends on the project, with some suggesting they were now spending more time with friends from outside the project. A number of participants also referred to the support/encouragement they had received from their children.	The intervention did not elicit a significant impact pre-intervention to follow-up, however mean scores were higher at the 6-month follow-up time-point. Alternative analysis in the form of MCID's also demonstrated that there was a 91% chance that the intervention led to an increase of at least 3 points on WEMWEBS at 6-month follow-up. Participants suggested they were beginning to focus more on themselves as individuals since attending the programme with all participants suggesting the programme had made them feel more confident in social situations, the majority of participants also made specific reference to increased self-esteem and improved self-image, whilst also suggesting they feel more motivated and positive. A number of participants mentioned an increase in happiness and increased mental-wellbeing, or decreases in anxiety.
12-month follow-up	Quantitative results demonstrated that the intervention did not have a statistically significant impact on total PA, MVPA, or sedentary behaviour for adults and children. Results of	All participants discussed how the programme had positively impacted on their family relationships and offered	The intervention did not elicit a significant impact pre-intervention to follow-up, however mean scores were higher at the 12-month

	parent data, however, demonstrated that the intervention did have a significant impact on the MVPA levels of parents after 12 months (achieved through bouts of >10 minutes). Additionally, median scores did show an increase in PA levels from pre-intervention to follow-up. All participants felt the programme had led to general increases in PA, however four parents suggested their PA levels had dropped off since attending the intervention sessions while the other 3 parents had joined a gym in the last few months. The intervention did not elicit a significant impact on overall dietary quality from pre-intervention to 12 month follow-up, however mean scores were higher at the 12 month follow-up time-point. Alternative analysis in the form of MCIDs also demonstrated that there was a 63% chance that the intervention led to an improvement in dietary quality by 0.2SD. All participants noted they had improved their diet/diet choices as a result of the intervention, particularly related to increased fruit and vegetable consumption and reduced fast/convenience/junk food consumption. Five out of seven parents also suggested these changes had now become part of their normal life. All participants suggested that they had an increased awareness of health since attending the programme. Some participants also discussed progression back in to employment and volunteering.	opportunity to spend time together. Participants suggested the project had led to them getting out of the house more and provided them with opportunity to engage in social exercise. All participants said they had made friends on the project, with some suggesting they were now spending more time with friends from outside the project. Four parents also noted the role of their children in encouraging or motivating them to stay healthy and in particular engage in PA.	follow-up time-point. Alternative analysis in the form of MCIDs also demonstrated that there was a 68% chance that the intervention led to an increase of at least 3 points on WEMWEBS. Participants suggested they focus more on themselves as individuals since attending the programme with six of the seven participants suggesting the programme had made them feel more confident in social situations. Two parents also noted how this confidence had led to reductions in anxiety levels and improvements in their overall mental well-being, while five parents mentioned an increase in their happiness levels. The majority of participants also made specific reference to increased self-esteem and improved self-image, whilst suggesting they feel more motivated and positive.

Table 7.2 Quantitative results for PA, mental well-being and diet for each participant and comparison to guidelines/averages

Participant name	PA		Mental well-being			Diet	
Sarah	Pre	Follow-up	Pre	6 month f-u	12 month f-u	Pre	Follow-up
Linda	Pre	Follow-up	Pre	6 month f-u	12 month f-u	Pre	Follow-up
Sharon	Pre	Follow-up	Pre	6 month f-u	12 month f-u	Pre	Follow-up
Stacey	Pre	Follow-up	Pre	6 month f-u	12 month f-u	Pre	Follow-up
Emily	Pre	Follow-up	Pre	6 month f-u	12 month f-u	Pre	Follow-up

Lizzie	**Pre**	**Follow-up**	**Pre**	**6 month f-u**	**12 month f-u**		**Pre**	**Follow-up**
Donna	**Pre**	**Follow-up**	**Pre**	**6 month f-u**	**12 month f-u**		**Pre**	**Follow-up**

 = score increased between time-points

 = score decreased between time-points

 = score remained the same between time-points

PA

Meeting UK guidelines (at least 150 minutes of moderate-vigorous through bouts of >10 minutes per week)

Below UK guidelines (at least 50 minutes of moderate-vigorous through bouts of >10 minutes per week)

Below UK guidelines (less than 50 minutes of moderate-vigorous through bouts of >10 minutes per week)

Mental well-being

Above English average 52.3 >

In-line with English average (49-52.3)

Below Scottish average <49

Diet

Dietary quality score of 13 >

Dietary quality score of 9-12

Dietary quality score of < 9

(Score of between 5-15)

Chapter 8 : Participant Case Studies

Introduction

This chapter presents three detailed participant case studies about three families who took part in the intervention and remained involved with the project 12 months after it ended. These case studies have been selected based on the changes found in the three core dimensions of health: physical (Sharon), psychological (Sarah) and social (Linda). As with the results presented in chapters 6 and 7, the case studies are focused primarily around the parent, with some supporting information presented about their child(ren) where appropriate, to illustrate the key changes in behaviour which are explored theoretically in Chapter 9. The case studies also indicate how the project and delivery was received by participants, an issue which is also discussed in chapters 9 and 10.

Case study 1 - Sharon

Background information

Sharon attended the sessions with her 10-year-old daughter, Fiona. During the intervention period, Sharon was 48-years-old, unemployed (associated with existing health conditions), educated to GCSE level, and lived with her partner of 14 years in a privately rented property. She also had a 21-year-old son from a previous relationship who still lived at home. She drove and had access to her own car. Sharon was a smoker and before attending the project indicated that she smoked <10 cigarettes per day and consumed alcohol on average twice per week (around 44 units in total). She suffers from arthritis in her knees and was also diagnosed with depression, anxiety and agoraphobia prior to attending the project. In her post-intervention interview, Sharon talked about how these conditions had often prevented her from participating in activities on her own and with her daughter. Before signing up to the project, Sharon engaged in PA occasionally, in the form of swimming with her daughter

and friends, and had been attending Slimming World for the past 12 months, losing around 20kg in this time. Before beginning the project, Sharon's BMI was 44.6, classifying her as obese.

Project engagement

Sharon attended the outdoor family fun day, held in Stanley Park in April 2014, after seeing a flyer in her local leisure centre. She then signed up to the health intervention in June 2014. When asked why she had decided to join the project, Sharon said 'just because it was about the community, doing things with my daughter, and getting to know what's going on in the community as well' (mid-intervention interview). Her daughter added that she had encouraged her mother to attend because she wanted to have fun. During the 6-month follow-up interview, Sharon noted that she may not have been as likely to sign up to the intervention without the opportunity to experience first-hand what the project would entail, meet some of the delivery staff and ask any questions related to the project. She also made specific reference to the family element of the project, and how having her daughter involved encouraged regular attendance at the sessions, regardless of her own existing health conditions. In particular, Sharon said:

> Before I started…I suffer with agoraphobia as well, so I didn't go out, and depression and that, and it [the project] just motivates me, especially with Fiona being involved…Having Fiona involved has given me the push to do it as well, which is what I wanted to do in the beginning. You know, activities with her…Not so much her, but for both of us, really, to do activities together.

She also discussed how support from the research staff on the project, and particularly the text messages which were sent before each session helped maximise her continued engagement with the project, particularly if she was having a bad day. Sharon attended 36 sessions across the 12-week intervention period: 21 PA (family fun and gym sessions), all seven education sessions, three cook and taste sessions, and five social sessions.

Introduction to case study

Sharon made a number of physical, psychological and social changes to her life as a result of attending the project, but was selected for this case study given the significant changes she has made to her diet, PA and sedentary patterns which have collectively led to significant reductions in body weight and BMI. Sharon also noted, during the 12-month follow-up interview that she felt that these changes in PA also her had a positive impact on her mental well-being which gave her the confidence to remain involved in the project and engage in other activities. Sharon also returned to part-time voluntary work on numerous EitC projects between the post-intervention and 6-month follow-up stages, and by the 12-month follow-up stage was in part-time paid employment with EitC. The following sections will explore, chronologically changes Sharon made while on the PFP, drawing upon extracts taken from a research diary and interviews conducted with her.

PA and sedentary behaviour

During the mid-intervention interview, Sharon highlighted how attending the project, and the PA sessions in general, had encouraged her and Fiona to become more active. When asked to explain why this change had occurred, Sharon said: ‘The interaction with the sessions. Just making us get up and go, and do things. Just the whole thing. It's just positive.’ After attending the project sessions for just two weeks Sharon sent a text message which supported this mid-intervention feedback, and said ‘I just wanted to say we are loving the project, getting us so motivated’ (research diary extract – 13/08/2014). Sharon also alluded to an increase in positivity and confidence which had occurred as a result of ‘getting out and doing things, and especially around here within the community’. Having her daughter attend the sessions also appeared to encourage Sharon to sign up sessions (e.g. the gym) which she may have been more reluctant to attend on her own. In relation to this point, Sharon said: ‘I thought I'd give it a try. I wasn't expecting to really enjoy it, but I wanted to give it a try because you [Fiona] were interested, weren't you? And I thought it's be nice for us to do together (mid-intervention interview).

Fiona's relationship with and opinion of, sport and PA also appeared to change during the first few weeks of attending the project. As part of informal discussions with the researcher when signing up to the project, Fiona talked about her dislike for sport and, in particular, said she did not like running. However, during the mid-intervention interview Fiona expressed a wish to engage in activities such as dance and badminton. When exploring this point with Fiona, she said she had started liking PA since attending the project because 'it's more sport, and it got me more interested'. Sharon did not attend any of the walking or yoga sessions due to having arthritis in her knees. However, she also discussed how she decided to substitute these activities that she was unable to attend with other more suitable activities such as swimming.

During the post-intervention interview, Sharon spoke very definitively about the positive changes she had made to her PA patterns, suggesting that she had become more active in general but especially in more structured exercise facilitated by her joining a local gym and swimming weekly. Accelerometer data demonstrated an increase of 53.83 minutes of weekly MVPA for Sharon, and a daily average increase of 4.11 minutes of MVPA for Fiona. When explaining why she felt the project had had such a significant impact on her PA, Sharon talked about the overall structure of the programme and also the encouragement and motivation she had received from staff on the project. In the post-intervention interview, Sharon said:

> I think the texts off you keeping us organised was one thing, saying, "Right, we've got this tomorrow", and it was like good, because I could get my head round it, "Right we're going to do this tomorrow", so that I could get my head round it, whereas I wouldn't just say, "Right, I'll get up tomorrow, and I'll go and do the gym, Fiona", or, "I'll go for a walk with Fiona". Because it was there, and we had you there as support, it made me do it.

At the 6-month follow-up stage, Sharon discussed how she had maintained the increase in PA, bit since the project's formal PA sessions were no longer

running, she now took responsibility for her own PA. She said: ‘I've got this sheet, and you do it on the stairs, like push-ups and that…So it's only like twenty minutes. You can do longer as it goes on, but doing things like that’. At this point she was also swimming once per week for between 20-60 minutes and was spending more time engaging in light activities such as walking with her daughter. Sharon also talked about how Fiona had also maintained a more positive view of sport and PA as follows:

> She still wants to do things all the time. Always wants to be out and play, and just doing all kinds. She's still like that. She just loves being active, and she loves being around other kids. Because at home she's on her own, so she doesn't really like sitting there. She'll sit and watch the telly, but even now, I've noticed lately, after about even an hour of telly, she's bored.

When asked why she felt Fiona’s opinion of sport and PA had changed, Sharon explained:

> She does run [now]. And I think at the time she didn't really understand that sport could be fun, as much as what she has done through the project, and how much she's enjoyed it, whereas I think that's changed, her mind-set.

This change in attitude led Fiona to join a local gymnastics club which she attended once a week for 45 minutes between the post-intervention and 6 month follow-up time points but dropped off by the 12-month follow-up time point due to time constraints. Sharon also purchased a bicycle and discussed how she was planning on getting out and doing some cycling with Fiona when the weather was better (research diary extract – 17/12/2014). When asked to explain her engagement in PA during the 12 month follow-up period, Sharon explained that she has been unwell and that this negatively impacted on her ability to be physically active. She engaged in 216 minutes of moderate-vigorous activity across the 7-day period, which was one minute less than her pre-intervention scores, but she did increase her PA accumulated through

bouts of >10 minutes or more of MVPA from 0 minutes (at the pre- and post-intervention time-points), to 44.95 minutes (at 12 month follow-up). Sharon also spoke very definitively about how she felt that, in general, she had maintained the positive changes she had made between pre- and post-intervention stating that she was engaging in ‘more of this type of activity than she’d ever done before’. When asked what type of activities she was engaging in at this point Sharon made specific reference to swimming and walking for leisure, both on her own and with other members of her family. She also noted that one mechanism she would often use to maintain her motivation to be physically active would be to involve Fiona in her plans, and make arrangements in advance. In relation to this, Sharon said: ‘If I say to her we’ll go swimming on Saturday, then she doesn't forget that, so I've got to go. So it's like setting myself up to make sure I do it, by telling her, making arrangements’.

Diet

As well as becoming more physically active, Sharon discussed improvements she made to her diet. She had already begun to make significant changes to her diet prior to the commencement of the project, attending weekly slimming world sessions and following eating plans, but the cook and taste sessions had given her ideas for new recipes to try at home and share with the family. During the post-intervention interview, Sharon said that the project had positively impacted on her whole family’s diets and this appeared to be as a result of two key things: (i) improvements in her own and her daughter’s, knowledge about what constitutes a healthy diet (with much emphasis being placed on knowledge about sugar/sweeteners in fizzy drinks); and (ii) Sharon being more organised and planning ahead with meals and food choices. Sharon summarised her thoughts about this as follows:

> I plan all the time now, plan meals. We go for the healthier options, the likes of the butter, stuff like that, bread, you know, don't eat as much bread. But like I say, it's the whole family. We're all doing it. It's not just me, it's not just Fiona and me, it’s all of us.

During informal discussions at a family fun session on Week 10 of the programme, Sharon also spoke about how Fiona had asked for a glass of milk before bed the previous evening instead of her usual fizzy drink, and suggested that it was good that Fiona had made her own choice about this. She also explained that she felt bad as she had been buying a caffeine/sugar free fizzy drink brand which she thought would be better for Fiona's health, but now understood the health implications of drinking any type of fizzy drink (research diary extract – 08/10/2014).

Six months after completion of the intervention, Sharon still felt the project had positively impacted on her diet and discussed how she had reduced the consumption of less healthy food choices, particularly chips and fast food such as KFC. She now suggested that eating healthily had become 'her way of life'.

> Because it all comes together, doesn't it? Well, if I ate the wrong foods, then I wouldn't want to be active…Which is what the rut that I was in. I was eating crap foods, I was inactive. It's not healthy. Whereas they go hand in hand, don't they?

She also noted that she was drinking more water, green tea and consuming more fruit and vegetables and was enjoying the food she was eating. These changes primarily stemmed from the knowledge and awareness Sharon gained by participating in the cook and taste sessions and attending the lifestyle awareness session. She also, again, made reference to the amount of sugar in fizzy drinks in particular, and noted how seeing this visually really helped her to make positive changes. In contrast, Fiona (who cut out fizzy drinks while engaged on the project), had regressed back to having one fizzy drink with her tea, but Sharon noted how she would no longer finish the whole glass and explained how learning about fizzy drinks 'shocked' her daughter:

> I think that shocked her as well, when she's seen the sugar, and I was saying to her about the sugar, you know, saying it'll rot your teeth, it'll make you unhealthy and all that, and I think if she was to not have that

> glass, it's like giving in. She's still got control by saying, "Yes, I'll have Pepsi".

12-months post-intervention, Sharon's dietary quality score was 1.1 higher than post-intervention, and 2.87 higher than pre-intervention, taking her to a score of 14.2 out of a maximum of 15, suggesting that Sharon had not only maintained the positive changes she had made to her diet, but had also continued to make improvements after the intervention period. This was supported by the comments Sharon made during the 12-month follow-up interview where she said that she felt the consumption of these foods had increased further still in the last 6 months. She even went as far as saying that her healthy eating and choices around food consumption had become part of her everyday life saying 'I don't even think about it, to be honest. It's just natural. It just comes natural now. I'd sooner go for an apple than a packet of crisps.'

BMI and weight loss

Four weeks into the programme, and at the start of a gym session, Sharon approached the researcher with a big smile on her face and said she'd lost 5lb that week and it was all down to the project (Research diary extract – 04/09/2014). Sharon lost 9.12kg in the twelve weeks she participated in the project, reducing her BMI by 3.6 (from 44.6 to 41). Sharon also made specific reference to her daughter's weight loss and said:

> She's [Fiona] lost weight, and she loves it. Yes. And she's started doing gym as well because of it, because the first time she went to the gym class, she just wasn't a bit confident. We took her back, and she's just got into it, and because of the healthy eating, and the more activity, she's losing weight, she's feeling confident in herself.

By the 6-month post-intervention stage, Sharon had lost another 16.70kg (25.82kg in total) and had reduced her BMI to 34.5. When asked about her weight loss during this period, Sharon explained how she does not like people

complementing her on, or drawing attention to, her weight loss, and suggested that she does not need this type of approval from others as she has ‘done it for herself’. However, she suggested that she had been so successful with her weight loss journey, and had felt happier mentally as well as being more physically active. This was particularly strengthened by the support from her daughter who ‘spurred her on’:

> She’s [Fiona’s] spurred me on. But I can't say enough about the project though, Laura. It's the family thing. Like I say, I think if it was just for me, I don't think I'd have done it. I don't think I'd have been as successful, changed my life round the way it has.

12 months post-intervention, Sharon had lost a further 10.4kg, taking her BMI to 30.5 and only 0.5 from being classified as overweight rather than obese. By this point her total weight loss was 36.22kg and for her, this was helped significantly by the project:

> I feel like I've got so much out of it, not just me, Fiona, both of us together, and I've enjoyed it all. I've learnt loads, and it's helped me to change my life around completely, and if it wasn't for that, if it wasn't for starting that in the beginning, I wouldn't be where I am now.

Alcohol consumption

While making considerable positive physical improvements to her health, one area in which Sharon did not make any positive changes as a result of the intervention was alcohol consumption. Despite attending the alcohol awareness session, Sharon increased her consumption between the pre- and post- intervention stages (consuming 11 extra units across the week post-intervention), before reducing this to her lowest level at the follow-up point (52.6 units less than post-intervention and 41.6 units less than pre-intervention). During informal discussions at the alcohol awareness sessions, Sharon talked about how she had already changed the type of alcohol she was consuming and replaced one brand of cider with a lower strength

alternative before attending the sessions, to decrease the number of units and calories she was accruing. When discussing her alcohol consumption at the post-intervention interview, Sharon said:

> Everton are back on, aren't they? Probably the same. I mean, but that's not a problem with me at all, to be honest. I work that into my healthy eating, healthy lifestyle. If I'm going to have a drink I make sure I'm not sitting and stuffing my face and getting depressed.

She also consistently stated that she did not feel that she had a problem with alcohol, however if she felt she was drinking too much then she would have made more attempts to change her behaviour and sought help through the project. During the 6 month follow-up interview, she also talked about her health priorities and said ‘I wasn't really bothered about that, [alcohol] It's changed everything else that's more important to me’.

Smoking

Sharon smoked, on average, 2.33 more cigarettes per day post-intervention than pre-intervention, despite attending the smoking awareness session. However, at follow-up, she smoked, 3.86 cigarettes per day, on average, which is 1.47 cigarettes less than pre-intervention and 3.8 cigarettes less than post-intervention. In addition, during the post-intervention interview she suggested that she was more aware of her smoking habits and had now begun to think about using local stop smoking services in the future. She also demonstrated an awareness that her smoking had increased from pre- to post-intervention and said:

> I'm aware of my smoking, and since we had that session on it, I wanted to give up, and he told me where I could go by ours, and I'm going to go. Definitely. After Christmas…because, I don't know. It's just in my head. I mean, everything he says I can remember, and what he said is true. But I've started smoking more and more than what I was, because

> I thought, "Right, I need to pack this in". So I'm aware that I'm smoking more.

Sharon talked about this again during the 6-month follow-up interview, adding that as soon as she begins to think about setting a target for stopping smoking she smokes more in anticipation. However, during the 6-month follow-up interview, Sharon described how stopping smoking was still a long-term goal for her but that she didn't feel ready to make the step towards smoking cessation. She said: 'I wanted to change my life now first, which I've done, and I'm just not ready to stop smoking. I want to, and it's there, and I will do it, but I can't say when.' Her propensity to smoke more was attributed to other variables and life changes including undertaking voluntary work and smoking due to boredom while Fiona was at school. During the 12 month follow-up interview, Sharon also demonstrated an awareness of how smoking cessation may be a significant challenge for her, more than some of the other health changes she had made in her life due to the addictive nature of smoking.

Progression back into employment

In Week Six of the programme, Sharon attended a volunteering/employment session and engaged well, but five months after she had formally finished the project Sharon formally signed up to the volunteer programme through EitC. She initially became involved in a women's mental health programme in April 2015. When asked why she had decided to volunteer on this programme in particular, she talked about her own experiences of mental illness and how these had led her to leave employment several years ago. However, engaging in the project and participating in the mental health awareness session helped her to think about how she would like to get back into work and the type of work she would like to be involved with, initially on a voluntary basis. In this regard, Sharon described her motivation for volunteering thus:

> Because I've got mental health issues myself. That's how I come out of work, and I want to try and get back into work, but put something back into it as well… Because when he [session leader] was doing it, he was

> talking about me. I could relate to what he was saying on the course, and it sort of helped me to see my life differently as well, and how I could help myself.

She also talked about how much she was enjoying her voluntary role and said 'I'm made up, made up I done it, and I just love it, absolutely love it. I love being able to go to work, getting back to the way I was'. During the 6-month follow-up interview, Sharon showed an interest in Tackling the Blues, a programme which is delivered to schools in the Sefton area, for children who have been previously diagnosed with, or are considered to be at risk of developing, a mental illness. Several weeks after the interview, Sharon joined the project as a volunteer mentor and been involved in one session per week since May 2015. Feedback from both internal and external staff about Sharon's contribution and progress has been excellent, for example a Mental Health and Wellbeing Trainer posting the following comment on Twitter:

'@TacklingBlues this inspirational lady was amazing today pls thank her for her amazing volunteering help 

In October 2015, the researcher was asked to provide a reference for Sharon as EitC staff were hoping to offer her a part-time role on the programme she had been volunteering on for the past few months. Sharon is now a valued member of the team and continues to enjoy working on the project. Her reintroduction to paid employment was underpinned by increased self-confidence and relationships developed while attending the project. Commenting upon the personal contacts and benefits of being involved in the project, Sharon said:

> What's done it for me was the sessions we had on listening to other people, that you can do voluntary work, and break into work that kind of way, which I would never have known about, and the fact of just being able to liaise with other people, families, and then people who were working, like yourself, and it's getting the feedback from the likes of

yourself, and it's just given me the confidence that I need really, to start changing my life.

In summary, Sharon made significant positive changes to her physical health while engaging in the intervention, particularly in relation to PA, overall dietary quality and BMI. These changes were not only recognised quantitatively, but were also discussed qualitatively at various interview stages. She was also able to maintain these positive changes up to 12 months post-intervention, and they also led her to make improvements to her mental and social health, and gaining in confidence and personal connections to gain employment with EitC, on firstly a voluntary basis and then in a part-time role.

Case study 2 - Sarah

Background information

Sarah attended the PFP with her 5-year-old daughter, Leoni and her two year old son, Sam. During the intervention period she was 24-years-old, unemployed, with no formal educational qualifications and lived as a single parent with her two children in a registered social landlord property very close to the football stadium. Her children did not currently have regular contact with their biological father. Sarah was also non-smoker and did not drink alcohol. She had an anxiety disorder and also previously experienced an eating disorder (before having her two children). Before signing up to the project, Sarah engaged in PA once per month, and said that a lack of support with childcare prevented her from doing PA more regularly. Her BMI was 21.7, classifying her as ‘healthy’.

Project engagement

Sarah attended the indoor family fun day held at Goodison Park in February 2014 after having heard about the event through door-to-door marketing. She then signed up to the health intervention in June 2014. When asked why she decided to join the project, Sarah said:

> I heard about it on a Family Fun Day. I got a post like through the door on the first one, and then got a text to come back with the kids, and I enjoyed the Fun Day, and I wanted to learn more about the programme…Because I don't really get out much, and I don't get to the gym. I don't do nothing much with them and I would have liked to get out more and meet new people instead of being stuck in the house, and it'd be good for the kids as well.

Sarah further suggested that she had three main aims of attending the project: (i) to achieve physical changes to her diet and body composition/figure; (ii) for herself and her children to make friends in the local area; and (iii) to increase her self-confidence levels by interacting with others. Sarah also suggested that the project itself had exceeded her expectations, saying that she 'didn't expect it to be this good' (mid-intervention interview) and that the opportunity to attend sessions which allowed her to be physically active with her children was of particular value to her. Sarah attended 55 sessions out of a possible 68 session during the 12-week intervention period: 37 PA sessions (gym, yoga, walking sessions and family fun), five education sessions (lifestyle management, alcohol awareness, two mental health awareness sessions and employment/volunteering), four cook and taste sessions, and nine social coffee morning sessions.

Introduction to case study

Like Sharon, Sarah made numerous physical, psychological and social changes to her life as a result of attending the project but was selected as the 'psychological' case study for the notable improvements to her mental well-being. These improvements were related, in particular to improved self-confidence, self-esteem and tangible reductions in symptoms of anxiety, Sarah was also chosen by project staff to receive an award for her progress on, and commitment to the project at a celebration event which marked the end of the intervention. Commenting on the progress Sarah had made while engaging in the project, one member of staff stated:

> She has attended close to every session, which shows her commitment and this is despite being a single mother of two. She has a very infectious personality and always seems to have a smile on her face. She is setting a great example to her kids with getting involved in various activities, spending quality time together with them and taking part in any activities or opportunities that arise.

Self-confidence, self-esteem and self-image

For Sarah, self-confidence was consistently referred to in all mid- and post-intervention interviews. Initially, in the mid-intervention interview, Sarah made frequent reference to having greater self-confidence in social situations and being around other likeminded parents, as in the following example:

> It’s boosted my confidence up so much since I've started. I used to be really quiet, but I've come out of my shell a lot, and that's being around other people that I feel comfortable with…And it's made me feel confident in a lot of things…Because having kids, you lose a lot of friends and a lot of confidence with other people. Coming to these sessions I've made like close friends, and I'm so happy with that, because I know I'll stay in contact.

At the post-intervention stage Sarah made further reference to self-confidence but also improved self-esteem which she attributed to the new friendships she has developed. She said: ‘I've met new friends and I'm a lot more confident now, like a lot of confidence to just speak to new people, and just do my own thing, and not worry about what other people think now.’ This also demonstrates how Sarah began to rely less on social comparison after engaging in the 12-week intervention. Further to this, by the 6 month-follow-up stage, Sarah began to talk about how her improved self-confidence helped change her self-perceptions as a mother. When reflecting upon how she had got dressed up before attending the Aintree horse race course, she said:

> I just looked in the mirror and I just instantly cried. I've never, ever looked at myself like a woman before, but for the past couple of months I've felt like a Mum, I've felt like a proper lady, like it's weird.

When asked about the sources of her low self-confidence and self-esteem, Sarah explained that she experienced significant mental abuse during a previous relationship. Her mother also died when Sarah was a teenager. She described these experiences vividly during her post-intervention interview:

> From an ex, like a past ex, he mentally tortured me, thinking: "You're not this pretty girl. You're very, very ugly. You're fat, you're full of stretch marks, you've had your kids, you're baggage", and it made me for five years, think that's true. And obviously with friends, with being pregnant they leave you. They don't want to know you anymore, so I kind of did feel lonely for five years, and then losing my parents, it made me feel worse in myself, and made me think why and things. And then on twelve weeks of the programme [I received] the boost.

Sarah went on to explain her low self-confidence as a parent and how she had often questioned her parenting ability in the past. She said:

> Since the programme, with meeting everyone, and having the confidence boost, and knowing that I am a good parent and I am good at doing things, it's made me confident to go right to the top, and my self-esteem go up…My personality's changed in a massive way.

That Sarah felt happier now as a Mum having attended the project was a theme she addressed during her 6-month follow-up interview when she explained:

> I feel more happier now as a Mum than I actually ever have been throughout, because at the start I was a really lousy Mum, because I didn't know what to do, because I was a teenage Mum, and then going through it and everything…But now I love it more than anything, and

> the kids are like, they always tell me they love me a lot more now, which is amazing to hear.

She also reiterated this again within the 12 month follow-up interview and further discussed how engagement in the project had led to this increase. Overall, her improved self-confidence, tendency to value herself as a mother, and willingness to interact with others helped reduce her social anxiety and improved her relationship with her children. In this regard, Sarah explained that:

> As a Mum, I feel more proud than anything. I was never really that happy Mum. I always thought I knew I was doing wrong suffocating my children. Now it's like I let them go and play on the step…Beforehand I was in a bubble, I was suffocated. It felt like getting locked in a tiny room and someone standing on my chest. That's what I used to feel like all the time.

Becoming less concerned about her anxiety and social evaluative threat posed by others was particularly important for Sarah as she sought to fulfil her responsibilities as a mother: ‘it’s got to the point now where I've thought, "people know I'm an amazing person, people know I'm a great Mum", so why should I have to try and prove it.’ Being around other like-minded parents on the project was noted by Sarah as an important source of social support during her the 6-month follow-up interview when she said:

> It's the people I was around. Before the project I didn't have friends, I had bad past relationships, so I was always low, I was always believed to what he [her ex-partner] said I was. I always felt I wasn't a very nice person, and no one'd ever like me. I thought people disliked me, because I didn't have friends, but then once I started the programme I met so many like happy people, and mums as well, and they were just all like me. It was just like I felt like them. I felt good, I felt accepted, so I was around confident people. That made me confident.

As a young single mother, developing supportive, non-judgemental and mutually beneficial friendships on the project was important since she has previous felt isolated and distanced from some of her childless friends. Worthwhile relationships with a number of staff and volunteers was also instrumental and on several occasions she described how she could approach and talk to staff members about sensitive topics and ask any questions without fear of being judged or belittled. On one occasion, she discussed the loss of her Mum at length during a gym session with a volunteer, a topic which she generally found difficult to talk about [research diary extract – 25/09/2014]. Revelations of a sensitive personal nature gradually became more common and during a coffee morning session Sarah spoke at length about how she had been previously involved in alcohol and other drugs as a teenager to manage her abusive relationship which resulted in her being sectioned because of a mental illness [research diary extract – 06/10/2014]. Having the opportunity to be around male project staff was therefore seen as an important contribution to begin gaining trust in men and entering what can be male-dominated environments such as gyms or sports centres. Reflecting upon her previous experiences, Sarah explained that:

> Well, obviously it's a massive improvement for me to have a lot more trust in men as well. I've never been the gym in my life, because there was always going to be men there, and being fat, like being through five years of mental torture and abuse and constant lecturing, it kind of made me I don't want to be around men…And then being around boys in the gym, it made me think they're not all the same. You actually can go up to certain lads and ask them something, and they can actually give you an honest answer. And I felt so comfortable around the lads. That it was like a massive improvement for me.

Around ten months post-intervention, Sarah joined a new local gym, which she attended around three times per week after putting her son into nursery. This also appeared to be a significant event for Sarah, and was something that she attributed to the improved self-confidence she gained from her time on the project, which she explained as follows during a 12-month follow-up interview:

> When I came on the programme I got so much confidence and built so much hope up and things, with my anxiety. I lost my anxiety. I wasn't thinking about that then, and when my son started nursery - I actually was not going to put him in nursery till he was three, four, at the normal age - but with Everton, after the programme, and everyone was talking and things, and they're Mums, and they were like, "Well, my children are in nursery", I put him in, and it's been the best thing I've ever done.

Taking part in the mental health awareness session was also particularly important for Sarah, offering an opportunity for her to discuss some of her experiences of mental issues with a group of supportive peers, whilst also helping her to become less judgemental of others, including men. In her 6-month follow-up interview, she said:

> I did judge a lot. I used to always judge a lot, but now I've learnt never to judge a book by its cover, just to speak to someone before you judge them. With men now, it's like I can actually speak to them, socialise with them. I don't have to kind of be in this bubble of someone else to be around them, because obviously not all men are the same, but the ones I judge are always the nice ones, so it's kind of I do tend not to judge anyone now.

‘Doing it for the kids’ and ‘me’

It was clear from the interviews held with Sarah that there were two central motivations for, and benefits of, her improved self-confidence, self-esteem and management of anxiety. Firstly, she appeared extrinsically motivated since this enabled her to better manage her anxiety for the benefits of her children. Indeed, during her post-intervention interview Sarah explained the project had made her more aware of her own anxiety, how this affects her day-to-day life and also provided her with inspiration and support to change and become a less anxious person, primarily for the ’kids’:

> Obviously with anxiety I'm going to be dead low, and it's made me realise that I need to change now, than be the same person I was for the rest of my life, and be anxious constantly. And then I'm thinking, well, obviously with the programme, it's made me think, well, if I could be anything, it's going to be making my kids like me, and if I change now, my kids'll grow up to be better people as well. So the big thing is, I'm doing it basically a lot for the kids as well, which the programme made me realise that a lot. So that's a big thing for me as well.

As a single mother with two young children and often little time to herself, the project also offered Sarah an opportunity to engage in some types of activities that she would have otherwise been unable to attend for intrinsic purposes (without the parallel children's sessions being available). During her pre-intervention interview, Sarah explained that she liked having opportunity to engage in PA for herself:

> After I had the kids I was a bit down with the weight, and I was always constantly down…having nothing for me, none of my time things. And when you've got two kids, you feel you need your time. But with doing circuit training, it's all my mates do it, so for me, I'm going with them, I'm having that time of feeling social, having social time, having a laugh, having the adult conversation and things, but I can only do it once a month.

At the mid-intervention point, Sarah, talked about how the project gave her 'a purpose' and how it made her 'feel good' to be able to wake up knowing she 'had something to do' and look forward to. While on the project itself, it appeared that simply attending the sessions provided an opportunity for Sarah to do things for herself as well as her children (e.g. a workout in the gym). However, upon completion of the project, Sarah then began to think more about her own life, needs and preferences including in relation to her aspirations of entering employment:

> I'm looking for work now, which is brilliant for me. It's made that, and

> now I'm really confident. I used to sit there, and I used to say, "Oh I can't do it, you see, because I haven't got that much experience. I didn't go to school. I'm not going to ever get a job". Now when I went to see them about the CV, they said, "You never say you'll never get a job. You will get a job. Your job is looking after your kids, and there's a lot of jobs out there for you, like build your confidence". So it just made me think I can do it, and I will do that.

By the 6-month follow-up point, Sarah had progressed into part-time voluntary work, and had expressed an interest in becoming part of the EitC volunteer programme, prioritizing her time to undertake activities such as shopping for herself and her children. As she explained:

> I'm buying myself a lot more things now as well. I've always been the type to spoil the kids more, because I felt like a guilty parent all the time, but now if I go out, I will see something and I'm buying myself a lot more now, so that's a lot more confidence in me as well.

When asked why she felt this was the case, Sarah replied:

> Obviously being put down all the time, I always was told like I'm a lousy person. There was no room for me to be on this planet, I'm a crap Mum and things like that. So it always made me feel like I wanted to prove other people wrong, like I'm not a crap Mum, I'm not a lousy person, and I'd always tend to not think about myself, but try and think more about my kids, so people thought I was the best person in the world, but then it got to the point now where I've thought, "People know I'm an amazing person, people know I'm a great Mum", so why should I have to try and prove it?

By the 12 month follow-up interview stage, Sarah was still taking part in her external voluntary work and was also volunteering for around three hours a week on an EitC project, supporting one of the members of staff she had met on the project. She had also begun to engage in part-time casual work, a

significant event for her as she had never engaged in any paid employment prior to participating in the project.

Happiness and positivity

Not surprisingly, given the developments described above, feeling ‘happy’, ‘positive’ and ‘young again’ was a common theme identifiable in Sarah’s comments at interview. During the post-intervention interview, she explained that ‘having fun’ with other participants meant the project resembled ‘a family.’ In particular, she said: ‘It felt like this is how a family should be, just having fun and just not caring.’ However, having the opportunity to do things she enjoyed such as attending a local theatre production, meant she also reported enjoying her leisure time more: ‘like on The Full Monty night it was so funny. We were all like together, and the other Mums was, it just felt like we could let our hair down.’

That engaging in more sociable and commercial leisure begun to impact positively on Sarah, was not lost of her children, as she explained:

> Because with me now having my confidence, and being able to get up and do what I want to do now, I've been kind of showing the kids different routines a day, and now I think they're getting it from me. They feel my vibe a little bit…now with me being so positive, and always on the move, and like happy and laughing, my kids are bubbly like that now, so they see me being like that.

In summary, Sarah’s psychological health improved as a result of attending the project particularly with reference to: self-confidence, self-esteem and self-image, reductions in anxiety and a tendency to undertake activities for intrinsic as well as extrinsic purposes. Sarah was able to maintain these changes up to 12 months after completion of the intervention, which was also associated with her reported improvements in physical and social improvements to health she also made through engagement with the project.

Case study 3 – Linda

Background information

Linda attended the PFP with her 12-year-old daughter, Emma. During the intervention period, Linda was 45-years-old, unemployed, but engaging in voluntary work for around 10 hours per week. She was educated to GCSE level, married and lived in a mortgaged property with her husband and daughter. She was a non-smoker and only occasionally drank a small amount of alcohol. She suffered from arthritis in her knees and before attending the sessions, Linda did not take part in any PA. Her BMI was 29.4, classifying her as 'overweight'.

Project engagement

Linda did not formally sign-up to either of the family fun day events, but on the day of the outdoor family fun day, she and her daughter were walking back through Stanley Park after visiting a family member and ended up participating in the research and some of the fun day activities. Linda signed up to the health intervention in June 2014 and when asked why she signed up to the project Linda replied:

> I got called by you, to tell me what other activities they had on, and I thought I'll go to a few, just to get out. Just to get out and about, and meet different people, and do something different.

When asked about her reasons for attending the PA sessions in particular at the mid-intervention stage, Linda explained this was for social reasons, and to meet new people from the local area and to 'get fit'. Linda attended 24 sessions across the 12 weeks of the programme: 18 PA sessions (Stanley Park walking sessions, yoga sessions and family fun), two one-off sessions (employment/volunteering and mental health awareness), and four cook and taste sessions. Her attendance also steadily increased as the project unfolded.

Introduction to case study

Like Sharon and Sarah, Linda made a number of physical, psychological and social changes to her life whilst attending the project. However, Linda selected as the 'social' case study because it was the social element of the project, and 'getting out of the house,' which was more clearly associated with the changes she made to the other (physical and psychological) dimensions of her health.

The project as an opportunity to spend time with existing friends

Linda initially attended project sessions just with her daughter, however after several weeks she approached the researcher to ask if she could bring her neighbour who had a 5-year-old son, to the yoga sessions with her. Several weeks after this, she also brought another friend and her 12-year-old daughter to the walking and cook and taste sessions. When discussing the benefits of this during the mid-intervention interview, Linda said 'because I think it's interesting. You've got to meet people, and I've brought people along, and they've enjoyed it. They've enjoyed taking part and doing it'. During some sessions Linda tended to be somewhat removed from the group as a whole, spending the majority of time talking to her existing friends and project staff, and on a couple of occasions made reference to how she felt older than some of the other parents on the project and therefore did not feel she had as much in common with them. During the post-intervention interview, Linda talked about how she enjoyed spending time with her friends whom she introduced to the project, saying 'I enjoyed having them there [her friends] because I think they're really my age…someone to talk to, and someone older.'

However, during the walking sessions and in smaller group-based activities such as the cook and taste, Linda seemed to gain more confidence and began interacting more with the group. At the end of project celebration event, one of the staff members also made reference to how both Linda and her daughter had 'come out of their shells' and had started to chat to both staff and participants before and after sessions. During the 6-month follow-up interview, Linda talked about how introducing her friends to the project had helped to

strengthen these relationships and how she was now starting to see these friends more regularly including at weekly walking sessions and a gym which she has joined with one friend from the project with.

Making new friends through EitC

After the 12-week intervention, Linda enquired whether she was able to attend any other sessions or projects which would allow her to continue to 'get out and about'. She was invited to join another EitC project which was aimed at parents with children with disabilities and she attended a walking session with the same walk leader from the PFP for around two weeks. However, due to funding cuts, the Walk Leader was no longer able to offer her services and the group, including Linda, decided to continue organising the walks outside the project themselves. Linda discussed how one of the ladies from the group would text her to arrange this and that she really appreciated this type of contact with new friends. Reflecting upon these important social benefits at the 6-month follow-up interview, Linda said:

> When the walks stopped, we [Linda and her daughter] went and joined a new group, and then I've met more people on that, and I'm enjoying it... Because making friends as well on the Wednesdays, like afterwards we go for a coffee or something. We have a like half an hour talk afterwards, and we have a natter as well.

She went on to explain how 'having a laugh' with people 'around the same age as me' who just really made you feel welcome' supported her transition into PA:

> I wouldn't do it [engage in PA] by myself, but with other people you do more, and you look forward to it…Because I wouldn't have went to a class by myself, because I wouldn't have known where it was, and I wouldn't have done round the park because I wouldn't have felt safe walking round the park by myself. (6 month follow-up interview).

Around nine months after the formal project sessions had finished, Linda also signed up to some gym sessions with friends - something which she had lacked confidence to do. When talking about this within the 12 month follow-up interview, Linda said: ‘I think just like you got to know the people more, and they invited you, and you see them enjoying it, and you could have a chat as well. So it was like a little social meeting as well’.

Quality family time and ‘getting out of the house’

Like many of the parents who attended sessions, Linda made frequent reference to opportunities available on the project to spend quality ‘family time’ with her daughter. During a post-intervention interview, Linda said: ‘I spend more time with Emma now. She's spending more time, and we do more things together. Enjoying it, being with each other more.’ When asked why this was the case, Linda explained that the project sessions helped her and her daughter to bond through shared activities such as the Stanley Park walk. Indeed, this was a topic of informal discussion before a cook and taste session where Linda made reference to Emma’s age and how, because she was a teenager she did not have the same desire to spend time with her Mother and would often go off and watch TV in her room or play on her games console. Attending the project, however, ensured she had a few hours of ‘quality time’ with Emma each week, including spending time cooking together at home. [research diary extract – 06/10/2014].

This became a long-term pattern of behaviour and at the 6 month follow-up interview, Linda said ‘I like to spend time with our Emma, we do the cookery together and we enjoy that so it's more like hands on things more than the exercise things.’ Twelve months after the PFP had ended, Linda explained that Emma had become less engaged in sedentary activities (such as watching TV) and actively encouraged to participate in more commercial leisure opportunities such as music concerts and going to the cinema. As Linda explained: ‘I take her to concerts, take her to the cinema, to museums. We have like days out now. We enjoy it… Even if we just go to the shop, it's getting out, isn't it? Better than sitting in front of the telly, because it's boring’.

As well as benefitting her daughter, the increased social interaction Linda reported from ‘getting out of the house’ also helped counter her feelings of isolation and loneliness. In this respect, during a post-intervention interview, Linda explained that:

> Because I think because I'm more active and doing more things, rather than sitting in the house by myself, thinking, "Oh, what can I do?" Because I'm getting out, and I'm enjoying it…I do more exercise and I'm meeting people, to be talking to loads of people, getting out more. I feel more better about myself.

When asked during the 12 month follow-up interview why she was still involved with EitC and engaged with the research team, Linda said: ‘because the activities were still running, and they still sound interesting, so I thought I'd keep them up, because it gets me out, and it gets me doing things.’ She went on to suggest that she felt her mental well-being would continue to improve if she was able to continue ‘getting out of the house’ and attend PA sessions, or keeping herself busy with other activities (e.g. increasing her volunteering commitments).

In summary, Linda made a number positive changes to her social health while attending the intervention, namely: making new friends through the project, spending quality time with her daughter, spending time with existing friends who she also encouraged to sign up to the project and getting out of the house and spending more time around other people. Engagement in the project also encouraged Linda to sign up to other PA-based sessions offered through the charity and 12 months post-intervention she was confident that she had maintained these changes to her social health.

Chapter summary

This chapter has provided an in-depth insight into the experiences of Sharon, Sarah and Linda had of the PFP and its impact on their health. The next chapter draws upon the case study examples here and the results presented in chapters 5, 6, 7, to provide a theoretical explanation of behaviour changes observed amongst the participants and what this suggested about the impact and outcomes of the PFP.

Chapter 9 : Discussion

Introduction

It was suggested in Chapter 1 that people from lower socio-economic groups exhibit poorer health than those higher up the social ladder, which is exacerbated by relative income and wealth inequality (Marmot et al*.,* 2001; Wilkinson & Pickett, 2010; Prag et al., 2013; Wilkinson & Pickett, 2015). Notwithstanding the significance of such inequalities for the health of everyone, especially the worst off, poor parenting and family life has become a comprehensive political and policy explanation for many social ills, including the health problems prevalent amongst low socio-economic groups such as the families in this thesis (Hartas, 2014). The UK Government has introduced a wide range of policies which attempt to improve various strands of health by increasing, amongst other things, PA as a component of clinical and public health interventions. However, the majority of these policies and interventions have been met with limited success having failed to adequately address the underlying structural inequalities and conditions which beset people's lives (Coalter, 2007; Marmot, 2015, Pickett & Wilkinson, 2015).

As Chapter 3 indicated, the research presented in thesis used an ecological framework which attempted to incorporate psychological constructs of behaviour change, namely self-efficacy and motivation alongside the key sociological theories of figurations, networks of interdependency, habitus, power and capital on behaviour change, to help explain the health, physical activity and sedentary behaviours of families living within an area of high socio-economic deprivation. The purpose of this chapter is to develop the beginnings of a theoretical explanation of the key findings by incorporating sociological theories with psychological concepts (reviewed in Chapter 3) to explore the processes of behavioural change in the broader social context of the families' lives and by relating these to other networks of interdependence.

Before doing so, it is worth noting that the findings of Phase 1 of the study indicated that, even amongst a relatively homogenous sample of low socio-economic families living in a small geographical area, there were still notable variations in the health behaviours exhibited by parents. There were also a number of clear relationships that existed between family background and health, particularly in relation to: participation in PA and level of education (Warde, 2006), smoking and employment and housing status (Lakshman et al., 2010) and between alcohol, employment status, number of dependent children and housing status (Lakshman et al*.,* 2010). The families also faced a number of physical, social and psychological constraints which often prevented them from engaging in health behaviours such as PA.

While much of the existing literature has focused on the health 'costs' of parenting, some research has indicated that becoming a parent can positively impact on health through the opportunity to activate social networks, develop psychological resources such as self-esteem and self-efficacy and improve mental well-being (Nomaguchi & Milkie, 2003). Being a parent has also been shown to encourage some adults to reduce their alcohol (Bachman et al., 1997), smoking and substance use (Staff, Schulenberg, Maslowsky et al*.*, 2011). These findings were also evident amongst parents in the current study who did wish to be healthy and noted how having children helped improve their PA, diet, smoking and alcohol consumption.

In contrast to the dominant tendency in the literature to present parents and children from low socio-economic groups homogeneously as physically inactive and sedentary 'couch potatoes' (Burton et al., 2003; Wright et al., 2003). The results of this study suggested that although much of the PA accumulated by parents was incidental (in bouts of less than 10 minutes leading to them failing to meet the UK PA guidelines) and linked to transport and housework duties, they did engage in regular daily light and moderate PA, which was supported by engagement in the PFP. The results of Phase 2 and 3 demonstrated that the intervention made a contribution to improving patterns of MVPA alongside dietary behaviour and self-rated mental well-being of the families involved in the PFP, however the programme had less impact on

smoking and alcohol behaviours. The remaining sections of this chapter seek to explain these findings in relation to how they can be used to inform a future EitC (or similar) intervention of this type, beginning with the significance of parents' figurations and networks of interdependencies for their health.

Figurations, networks of interdependencies and the social construction of health

The data generated in this study shed light on the importance of studying families and health behaviours within the context of parents' social networks or figurations. Indeed, the past, present and future relationships between family members (particularly between parents and children) and their health behaviours cannot be adequately understood without also taking into consideration the interdependence between them (Elias, 1978). While health behaviours, such as the engagement in PA, are partly influenced by individual choice, the parents in this study were also constrained by the pressured generated by their interdependence with others (Dunning et al., 2004).

For example, from the outset of the project, parents explained that others in their figurations often negatively impacted on their health behaviours prior to engaging in the PFP, particularly close friends and family members who lived in similar social circumstances characterized by high levels of inequality and significant engagement in 'risky' health behaviours such as smoking, alcohol consumption and poor diet choices. These health behaviours were normalised within the figurations in which parents were a part and this made the task of tackling these health behaviours very difficult, especially for females, who, were constrained by a whole range of social pressures (Royce et al., 1997). As mothers of young children, many of them were bringing children up without the support of a father or significant other and felt compelled to spend time with their children or put their children first rather than prioritising their own health (Nettleton, 2013; Annandale, 2014).

In this regard, parents' knowledge and interpretation of health was socially embedded within their social networks. As Nettleton (2013:35) noted, 'lay

health beliefs' (such as those explored by the parents in the study) were not simply diluted versions of medical knowledge; rather, they are shaped by people's wider milieu, such as their structural location, cultural context, personal biography and social identity'. The health behaviours of parents was constructed through, and does not exist independently of, their intentional and unintended action (Blaxter, 2010; Marmot, 2015; Pickett & Wilkinson, 2015). Parents' social bodies influenced the way their physical body was perceived and experienced by others and it was therefore, essential to conceptualize their health as a combination of biological, social and behavioural processes rather than simply being reducible to the actions of isolated, individual parents who are freely able to modify their behaviours and lifestyles to become healthier (Nettleton, 2013).

An appreciation of the social construction of parents' health within their complex, dynamic figurations (Blaxter, 2010; Nettleton, 2013), can thus help explain the past and present day behaviours of families including their engagement with the project. The impact of these relationships on health varied across time and space (Nettleton, 2013; Annandale, 2014), as evident in the reported variations in parents engagement in PA, diet and other health behaviours, as well as their mental well-being before, during and after the PFP. The reported behaviours of parents were also tied closely to their social identity, which has been defined as 'the individual's knowledge that he belongs to certain social groups together with some emotional and value significance to him of this group membership' (Tajfel & Turner, 1979:292). Being part of the project, provided participants with an opportunity to develop new face-to-face friendships with other families who had similar aspirations to improve their health. These social settings for health promotion, in some cases enabled parents to begin making changes to their health which complemented their individual choices and behaviours (see Chapter 8).

Elias (2000) argued that it is important to view human beings in the plural and in doing so recognise how they are directed to, and linked with, one another in the most diverse ways. Any observed changes in parents' individual behaviour - which occurred as a result of engagement in the intervention, can only be

understood in the context of their relationships with others both internal and external to the project. For the 12 weeks that participants were attending project sessions, they were spending several hours each week together, with some parents also spending a great deal of time together outside the formal project hours.

Since the project was established as a family-based project which encouraged social interactions between families and members of individual families, it may have been more successful in encouraging positive behavioural change than other interventions which have adopted largely individual, cognitive-based models of behaviour change, and have not paid sufficient attention to the role played by significant others in the adoption and maintenance of health behaviours such as PA. Since the PFP primarily involved face-to-face interactions between participants and staff, it encouraged greater detection of information and the development of more meaningful relationships which involved emotional attachment between parents (Turner, 2002).

It has been argued that relationships (e.g. online relationships which do not involve face-to-face contact), are less valuable than offline ones and may detract from social involvement with friends (Cummings, Butler & Kraut, 2002). Therefore this type of relationship 'offers the illusion of companionship without the demands of friendship' (Turkle, 2011:1). In comparison, regular, face-to-face interactions between participants and staff members on the project, and also between/within families allowed for the development of mutually supportive, co-operative relationships and the development of a group and individualized social identity (Burke, 2006), which was instrumental in helping participants to begin to make positive changes to their health, particularly in relation to adult mental well-being, PA and diet.

It is also important to note, however, that members of parent's figurational networks who were not directly involved in the intervention, may have also impacted on parents' ability to maintain behaviour during, and following, the period of intervention. Given the significance of these relational constraints, the project was less successful in encouraging those participants who smoked

and drank alcohol to reduce or stop these behaviours and tackle the deep-rooted nature of these behaviours. Indeed, for reasons explained below, these behaviours appeared more-or-less central components of parents' habituses which appear more resistant to change during adulthood (Elias, 1978; Elias, 2000; Dunning & Huges, 2013)

Power, verbal persuasion and modelling

As explained in Chapter 3, figurations are always organised around the dynamic operation of power (van Krieken, 1998) where individuals and groups accumulate different amounts and forms of power resources that always emerge out of, occur within, and restructure, unfolding social configurations (Dunning & Hughes, 2013). The reciprocal workings of power inevitably enabled and constrained the relationships between children and their parents in this study. Before the intervention began, the greater position of power occupied by the parents enabled them to facilitate their family's attendance at project sessions and especially that of their children, whom they used to keep entertained during the school holidays (van Krieken, 1998).

Indeed, the initial family fun days were explicitly designed and delivered in Phase 1 to recognise the significance of these power relations and the constraints exerted by parents over their children to attract families from the local area to the project. In this regard, a more holistic and family-based approach to health was thought to be more effective in changing and maintaining the behaviours of all family members rather than focusing on prominent and more powerful family members. In contrast to many 'adult only' or child-focused interventions (Davion et al., 2011).

In this study, parents were constrained to take into consideration the needs and wants of their children, who, while seemingly powerless by comparison to their parents, often played a significant role in shaping their parents' heath and prompting their parents' attendance at particular sessions during the intervention period (Such, 2015). However, since power is dynamic and constantly in flux (Elias, 2000; Dunning & Hughes, 2013), the balance of power

shifted towards the parents at other times during the intervention. For example, while children may have wanted to attend a particular session on the project, their children may have had other responsibilities at that time. The results of Phase 3 indicated that some parents were only able to maintain the positive changes they had made to their health by constraining their children to participate in activities which they came to value, and which they wanted to pursue in the company of other parents.

In doing so, parents were also able to pass on the knowledge they obtained through the project sessions to their children and other members of their networks to help change their health behaviours, particularly in relation to diet. This was particularly the case since the majority of parents involved in the project were female and generally took responsibility for the purchasing and preparation of food as relatively powerful people in their household. This type of power appeared largely coercive and persuasive as family members were heavily constrained to behave in healthier ways which may have in some cases been against their will. However, children also appeared to request the purchasing of some healthful food choices by exerting persuasive power over their parents (Turner, 2005).

One final dimension of the power relationships which characterised the PFP was the relationships which developed between families and project delivery staff and volunteers. These relationships, and the support from staff members, was fundamental to families labelled as 'hard-to-reach' engaging with and remaining involved with the project sessions. In this regard, the imbalance of power was (initially at least), weighted in favour of the delivery staff and encouraged families to attend a variety of sessions and thus make the first step in trying to change health behaviours. For some participants these key staff members were viewed as important sources of information and helped (verbally and socially) to persuade families to change their behaviours (Turner, 2005), whilst also acting as a source of self-efficacy. Secondly, staff, many of whom were from the local area (and therefore participants may have been able to identify with), also acted as positive role models for parents and children on whom to model their health (Bandura, 1984).

Capital accumulation, imitation and modelling

The accumulation of various forms of capital, which was facilitated by the intervention sessions and the establishment of social figurations not only between staff and families but also within and between families, was fundamentally important to supporting the positive steps some families were able to make towards changing their health. According to Bourdieu (1984), the unequal distribution of capital within a society is both the result of, and an important mechanism for, the social reproduction of power and privilege which is determined and structured by people's habitus. Before engaging with the intervention, parents made reference to a number of constraints they experienced in relation to their health which were indicative of a lack of the three forms of capital: social, cultural and economic, which generally occurred as a result of their socio-economic circumstances.

Regardless of their social circumstances, however, families were able to make at least some improvements to their physical health albeit for a limited period of time while attending the project sessions, as a result of being able to access various forms of cultural and social capital and experiencing fewer economic barriers (e.g. by receiving free gym memberships and courses) (Rocco et al., 2014). A number of mechanisms by which the accumulation of social capital may have helped improve the health and behaviours of individuals appeared to be in play. Firstly, families were able to accumulate health related knowledge and skills (or capital) by attending a variety of health-based sessions. The cook and taste sessions, for example, gave families an opportunity to not only learn about what constitutes a healthy diet, but also a chance to put this knowledge into action. Initially, in the sessions themselves, this helped family members to form 'good habits' within the intervention (Gardner, 2015). It was then down to families to replicate this behaviour in their wider lives using the new skills and resources they acquired during and after the formal sessions had finished. While there were designated sessions devoted to particular types of health behaviours, much of the information families were able to obtain from the project also came informally from

conversations with staff members, or through the sharing of information between families.

Bennett et al., (2009:39) have noted, 'contemporary cultural advantage in modern day British society is pursued through the capacity to link, bridge and span diverse and proliferating cultural worlds'. Parents also supported each other throughout the project – physically, socially and psychologically - and this was key to supporting the changes some families were able to make to their health. The majority of parents were female, many of them were unemployed and/or single parents and who, prior to attending the project, had often been very isolated with limited adult support within their social networks which often included few positive role models. Despite wanting to be 'healthy' in Phase 1, this was met with limited success but attending the intervention enabled families to spend time together whilst working towards the mutual goal of health improvement. It also brought together families from a similar demographic area, with children of a similar age bracket, which helped develop bonding social capital which has been previously identified as an important factor in the development of local reciprocal networks, the provision of social support, and mobilizing solidarity (Putnam, 2000), particularly in disadvantaged groups (Wakefield & Poland, 2005).

Parents and children alike began to form strong face-to-face relationships through attending the 12-week intervention which also led to some families spending time together outside of the project setting, and on several occasions drawing upon one another for help with childcare, transport and/or psychological support (Wakefield & Poland, 2005) which allowed parents to engage in behaviours which were conducive to health for example attending external PA sessions and seeking additional psychological (health) support. This was indicative of the development of bonding social capital or the development of horizontal ties between families (Poortinga, 2006), which helped create social cohesion within the group. Parents referred to the relatively small group of which they were a part as 'like a family', which is evidence of the group's conscious appreciation of the strong social ties which had developed through participation on the project. It can be further suggested

that if the group had been larger in size, the positive effect of social capital which the families were subjected to may have been more limited (Fukuyama, 2000).

The project and engagement with the intervention also provided parents in particular, with an opportunity to take part in social exercise, which many parents perceived as being fundamental to their engagement in positive health behaviours during the intervention period (as demonstrated in the results of Phase 2). However, while some parents remained close friends post-intervention, for some families the time they spent together was limited once the intervention sessions had finished, and without this on-going social support some parents were unable to maintain the positive changes they had made to their health. In this regard, the findings were consistent with those of Molloy et al*.* (2010) who reported that higher levels of social support is associated with higher levels of PA in young adults, and that women have a greater need for companionship and emotional types of PA support compared with men.

Attendance at the project sessions also allowed families to come in to face-to-face contact with staff/volunteers members, many of them were from different socio-economic backgrounds and sometimes of the opposite sex. The development of this bridging social capital, which links disadvantaged groups with more advantaged ones, was an essential means of accessing forms of social, cultural and economic capital (Wakefield & Poland, 2005). Families were able to spend concentrated amounts of time with staff members, in particular members of the research team during the intervention, and were able to draw upon the social capital possessed by these members. In some cases, this was related to the greater health-related knowledge possessed by staff and peer mentors (Pawson, 2006). Results identified four broad stages through which the relationship between the project mentor and mentee occured including: befriending and the creation of rapport and trust, direction-setting and the promotion of self-reflection, coaching or the coaxing of mentee's into particular behaviours, and sponsoring which involves networking or the sharing of capital to provide the mentee with the necessary contacts and opportunities (Pawson, 2006).

The project was also part of a broader organisation (EitC), which may have not only been useful in attracting participants to the project in the first place, but also provided participants with access to greater amounts of social capital than would have been possible with an isolated or stand-alone intervention (Nicholson & Hoy, 2008). Due to the location of the sessions (the majority of which were held within the football stadium), families regularly came into contact with staff members in positions of power in a large organisation and which had a significant amount of status in the local communities of which the families were a part (Bourdieu, 1984). In some cases, the development of linking capital between the organisation and participant enabled families to take advantage of invitations to health or family-based events in the local area and be provided with tickets to a theatre production mid-way through the intervention period and free or subsidised tickets to Everton FC games.

This capital gained by families was also not limited to participation in the 12-week intervention, as parents in particular were able to 'convert' the various forms of capital gained by attending the project into meaningful resources which allowed them to make changes in other areas of their lives (Bourdieu, 1984; Bennett et al., 2009). One important example of how this conversion of capital occurred was through the volunteering/employment sessions which parents attended mid-way through the intervention. Parents were provided with information about volunteering and employment opportunities generally in the local area, and were also provided with the opportunity to sign up to the volunteer programme, which in one case, Sharon, led to part-time employment and for two others, this capital led parents to explore and take up opportunities for voluntary employment.

Habitus

In addition to the concept of capital, individual and group habituses of adults and children were crucial to developing an adequate explanation of families' health behaviours. In sociology, Cockerham (2005:61) has noted that 'habitus serves as a cognitive map or set of perceptions that routinely guides and evaluates a person's choices and options' and in relation to physical health,

this could include ones pre-disposition to take part in regular PA, drink alcohol or consume particular types of food. The extent of families' poor choices around diet first became apparent during the first family fun day event, where a number of families turned up to the event (held at 10:30am) armed with buckets of KFC and boxes of microchips. This was a common theme which continued throughout the intervention period, with parents and children frequently consuming fizzy drinks and/or junk food within or after sessions.

As previous studies (Birchwood et al., 2008; Wheeler, 2011; Haycock & Smith, 2014) have consistently demonstrated, parents' predispositions for PA, as part of the habitus is developed most impressionably during childhood where parents and the family environment facilitates and transmits values and preferences which are later expressed in adult PA and sports participation. It has been previously suggested that people are moved to act by a variety of different factors. For the families in the study, whilst they all had their own unique habitus, they also had shared similar social conditions and therefore had a group habitus which shaped their collective experiences of health, and indeed, PA.

The children's tastes for particular health behaviours reported in this study was also often a reflection of their parent's tastes or preferences which has been passed down through families in a process of what Bourdieu (1984) calls intergenerational habitus (Bourdieu, 1984). In the current study, habitus influenced whether families were predisposed to take part in PA-based activities (including sport) prior to engaging in the intervention and when parents engaged in PA-based activities prior to attendance on the intervention, these tended to be more informal in nature and centred around their children. Parents would often take their children to the park where they would walk and play games, an activity that parents also took part in during their childhood with their parents.

However in relation to a lack of engagement in PA, previous research has identified the role which self-efficacy plays in ones inclinations to engage in this type of activity (Prabu et al., 2014). In Phase 1 of the current study, parents

made reference to a lack of skills, fitness and self-worth as significant constraints on their frequent engagement in PA. In addition, since habitus is psychologically generated but socially constituted, is inextricably tied to one's gender, age, social class and ethnicity. The notion of habitus, therefore, can be used to understand not only how individuals orientate themselves within the world, but also how the world orients individuals in ways which are relatively set by their social dynamics (Silva, 2016).

Before attending the PFP, in general the participants in this study had limited previous experience of attending PA environments such as gym facilities, and often had poor previous experiences at to this type of activity which had reinforced their already low self-efficacy in relation to PA, health, and lives more broadly. In particular, parents were also focused on how they looked and, in particular, their body weight and image and wished to participate in PA sessions for these reasons. Extrinsic motivation, in the form of introjected regulation stimulated the process of parental behaviour change in relation to diet and PA. However, as parents participated in more sessions they acquired more knowledge and capital in relation to their health, their levels of self-efficacy increased and their motivation began to shift towards more intrinsic values so that they valued the benefits of participation in and of itself.

In the case of Sharon, who was able to make notable changes to her PA and dietary patterns while losing a significant amount of weight. Sharon went from being driven to engage with the project sessions to lose weight, to becoming reluctant to talk about her weight loss. Instead, she preferred to focus upon how she had been able to change her behaviours as a result of engagement in the intervention and claimed that she did not need the social approval of others; she had lost weight for personal reasons only (Friederichs et al., 2015). The development of confidence, which later led to developments in self-efficacy and self-esteem was also vital to the successful changes in diet and PA which some parents were able to make and formed an important part of families attendance at PA-based sessions in particular.

Indeed the majority of parents had relatively low mental well-being scores prior to engaging in the intervention, which was partly related to their social circumstances and is indicative of social evaluative threat and status anxiety they frequently experience and which led them to feel inferior to others (Wilkinson & Pickett, 2010). Engagement in the intervention and the social element of the programme, in particular, provided participants with an opportunity to spend time with other like-minded, supportive families. However, it appeared that real change in habitus only occurred when parents were able to continue with these behaviours outside of the project. In relation to PA, once the organised gym sessions had ended, whether participants wished to replicate exactly this behaviour was contingent upon their ability to purchase gym memberships and incorporate specific activities to fit in with their everyday lives.

The process of changing physical and social behaviours, which altered families' habitus' and which occurred through the development of internal competencies through the project environment, was also related to psychological changes, and improvements in parental mental well-being. The ordering of these changes was not the same for all parents, with some undergoing psychological change first which led to engagement with the sessions and later improvements in physical and social health, while for others the social element of the programme from the outset led to changes in physical health (primarily via diet and PA which led to improvements in mental well-being). As in previous studies, these improvements were strongly associated with healthy eating, levels of social support, contact with friends and neighbours and satisfaction with the local environment (NHS Scotland, 2015).

Notwithstanding some of the positive behavioural changes reported by some parents, not all parents were able to make and/or sustain healthy behaviour changes which were encouraged through the intervention. This is perhaps unsurprising, for as Elias's has argued while one's habitus can (and often does) change as people's lives unfold, it solidifies and hardens as they pass through childhood and youth, which can make it more resistant to change

(Elias, 2000). This appeared to be particularly the case for smoking and alcohol consumption where despite parents attending sessions, these appeared to make little impact on these deep-seated activities which were normalised and valued by parents as part of their figurations.

Research in the psychology domain has suggested that forming good 'habits' may be an easier process than changing unwanted 'habitual' health-risk behaviours, or bad habits which are more resistant to change (Gardner, 2015). However, it is important to note that smoking is highly addictive and simply exposing families to knowledge about the health harms were unlikely to radically impact on smoking behaviour. Despite attending sessions on alcohol and smoking cessation, parents who engaged in these types of 'risky' behaviours also demonstrated little desire or motivation to change these types of behaviours at the time of the intervention (see Chapter 8).

Process evaluation

While there was some evidence of families making positive changes to their health through engagement with the PFP as detailed within previous sections, the remainder of this chapter will place particular emphasis on the lessons learned from the research as part of the process evaluation to better inform future EitC interventions. Figure 9.1 illustrates the final (post-intervention) version of the programme theory (all earlier versions of the model can be found in Appendix IV). The vertical columns contain elements of the PFP and associated intervention which illustrates: the approach to recruitment for the PFP: the nature of the participants and main assumptions about these families; and the main design features and approach to the intervention/intervention design which sought to improve the health and PA behaviours of the families involved (outputs 1). It should be noted that these will be presented from left to right for ease of discussion, however as detailed in Chapter 5, models were developed beginning with the outcomes in the far right-hand columns and working backwards to finish with recruitment. Other researchers, including Mansfield et al*.,* 2015, have referred to these outputs as 'intervention resources' and 'mechanisms' of impacts which strengthen the nature of social

relationships between families and staff on the programme, the community element of the programme and the key concepts adopted (Mansfield et al. 2015). The response of the participants, in terms of the opportunities offered, degree of trust developed and engagement with the programme, and the varying interim impacts and outcomes for both participants and EitC as an organisation were also embedded into the programme theory. The remaining sections will discuss each of the dimensions of the programme theory in more detail, drawing upon the relevant theories and concepts discussed earlier.

Inputs 1: recruitment – the power of the Everton badge

As Coalter (2013; 2016) has noted, recruitment strategies for projects such as the PFP can be conceptualized along a continuum ranging from open access to participants being specifically targeted because of the exhibition or lack, of a particular behaviour. The recruitment adopted through The PFP was classified as open and 'targeting', since while a specific geographical location was selected for the study, and families were required to have at least one child aged between 3 and 11 years of age, they were classified as 'self-selecting' as the programme was open to all families regardless of their health behaviours.

Being associated with the Everton FC brand assisted with marketing and project recruitment. Many people living within the immediate vicinity of the club and one-mile-radius target area were often Evertonians who were keen to be involved in any activity affiliated with 'their club'. The 2004-2005 Premier League survey found that 40% of Everton match day fans live within 10 miles of Goodison Park. However, this loyalty did not seem to be limited to first team activities and football events but also covered any activities carried out by EitC, local residents appeared to view the stadium and all that it represents as part of the local community, and almost as an unofficial community centre which housed numerous EitC project sessions, including those on the PFP.

The first two weeks preceding the first family fun day involved myself and a group of student volunteers putting posters/flyers in local shops, leisure centres and community centres, and knocking on doors spreading the word about the project. Initially I was quite apprehensive about this approach and concerned about the reactions of local people. However, this proved to be one of the most effective methods of marketing and in general people were friendly, polite and positive. Additionally, within just two days of marketing, 47 families expressed an interest in and left contact details to sign up to the event. Several members of the marketing team also noted that people tended to be more receptive towards local students who spoke with a Liverpudlian accent, and were very respectful towards female students (research diary extract – 11/02/2014). Word of mouth approaches also seemed particularly successful, and by the second or third day of marketing people already seemed to be familiar with the project name and had heard about the event from friends or other marketing techniques. We also had a number of people from the local community who appeared to be very supportive of the project and the work that EitC do. A number of families who signed up to the event also asked whether they could bring additional family members along too (e.g. siblings/cousins and their children).

The most successful and time-efficient method of marketing, however, occurred during an open 1st team training session which took place at Goodison Park during the school half-term holidays. As part of this event there were also a number of activities taking place within the grounds such as entertainment, refreshments and small-sided football games. Many families from the local area attended and 50 families were recruited to the fun day within an hour period. On the other hand, some attendees (10.94%) were also from outside the one-mile target area (but still from Merseyside), and it did not seem fair or appropriate to discourage these families from attending too, although they would not be eligible for the research or intervention component of the project.

The provision of the fun day event in Phase 1 of the project was also deemed an important stage in the recruitment process. Local families who attended

seemed to view the event as a ‘day out’ or an activity in which to engage their child(ren) while giving parents a break from child-care duties. In addition, rather than just dropping in for an hour or two, the majority of families tended to stay for the full duration (three hours) and often brought lunch along with them. During interviews which were conducted with intervention families, a number of parents also noted that attending an initial fun day helped them to gain trust in the project and staff. This led the participants to be much more amenable to signing up to a health intervention which they may not have otherwise been confident or interested in attending. From my perspective, the task of explaining and ‘selling’ the opportunity to take part in the health intervention was much easier with families with whom I had the opportunity to talk to at an event, especially those whom I had interviewed and already begun to build a relationship with. This rapport was also vital to the success of the research from pre-intervention through to the 12-month follow-up stage.

Throughout the intervention period, all sessions (excluding the Stanley Park walk) were held at the football stadium. This may have encouraged participants, particularly those who were Everton fans, to sign up to the intervention as it offered an opportunity to spend time in the stadium and see parts of the club. However, while several participants were Liverpool fans, this did not appear to discourage them from signing up to and becoming part of the project. There were also a number of participants who attended both family fun days and the intervention itself, who had no interest in football per se, but still recognised the commitment of the club to its local community.

Within the 12-month follow-up interviews, participants were asked whether the project was associated with EitC was important for their initial sign-up and engagement. Two participants suggested that the Everton badge played no part in their desire to sign up to the project, while the remaining five participants suggested that the badge played some part in their initial interest, but that they would have still signed up to the project if it was being offered by another organisation. This is somewhat in contrast to much of the current FitC research which cites the brand of the club as being central to recruiting of ‘hard-to-reach’ people to health-based projects (Sanders, Heys, Ravenscroft et al., 2012;

Pringle et al., 2013b; Lansley & Parnell, 2016). The evidence presented here suggests that there are often other factors which are equally, if not more important to families than 'the power of the badge'. In this regard the 'badge' and collaboration with a Premier League Football Club can be seen as a necessary, but not sufficient, condition for the success of a project and intervention such as the PFP. Conversely, all seven participants identified social reasons for their initial interest and sign up, making particular reference to their desire to meet other parents in the area and for their children to make new friends, suggesting that the social benefits that can be generated by community-based projects are important for families from this type of demographic.

This approach led to the intervention being comprised of families who, on the one hand, were homogenous (i.e. they were drawn from the same area, with children of the same age), but were also heterogeneous in relation to their employment status, level of education, and health behaviours, particularly in relation to smoking and alcohol behaviours, which meant the social relationships they developed on the programme were particularly significant for maximising the success of the programme.

Inputs 2: participants

As Coalter (2016) has noted, the method of recruitment had substantial implications for the type of participants recruited for the programme and shaped the type and severity of health problems which the programme sought to address. Families recruited to participate in the intervention all exhibited at least one (but up to five) poor health behaviours (PA, diet, mental well-being, smoking and alcohol) that were transmitted inter-generationally. All families, also lived in social contexts characterised by high levels of deprivation and consisting of a lack of role-models to promote good health. On the basis of this, and as detailed in Chapter 6, an individualised holistic family approach was designed and developed (drawing upon insights from Phase 1), whereby families were encouraged to drop-in or sign up to the sessions that appealed to them and were consistent with the structure of their lifestyles.

During the post-intervention interviews, parents were also asked to provide feedback on all sessions which they had attended and rank the sessions in order of importance for them and their family. Attendance was highest at the Cook and Taste, family fun and gym sessions and this was reflected in the rankings: three parents ranked the family fun sessions as the most important, two parents voted for the gym sessions and one elected the Cook and Taste sessions. However, the other rankings and preferences were different for all parents, which highlights the importance of offering a bespoke programme to families even within what is considered to be a homogenous group. Additionally, while it did not score particularly highly on the rankings, three parents in particular seemed to really look forward to attending the social coffee mornings and, from my perspective, this type of session was amongst the most important for some parents, since they offered parents an opportunity to spend time with new friends and staff.

Outputs 1: Physical activity and health

The PFP was a *plus sport* (Coalter, 2007) programme as the Everton FC brand was used to attract participants, with the majority of non-sport sessions being held within the stadium and based around education and providing families with opportunities to improve their physical, social and mental health.

Outputs 2: Social relationships

The social relationships developed between families, staff and volunteers were central to the design and success of the project. These relationships involved the development of high levels of trust and intimacy between each of the participating groups and were vital to maximising the success of the programme. For example, text message reminders, not only related to the research, but also as prompts for weekly intervention sessions, were also vital to the success of the project (especially in the initial few weeks). Despite all families being given timetables, many parents noted that they would have forgotten or been less likely to attend without receiving reminders the day

before sessions. This concept of support from staff was also a theme which spanned across mid-, post- and follow-up phases, and also appeared to be a key element contributing to the success of the project, since feedback on project staff and volunteers was entirely positive. While the health-related knowledge and experience of staff was often discussed, many of the comments from participants in relation to staff were focused more on personal skills, and on their ability to connect with their children, a point which the participants particularly valued.

These relationships were not only central to the success of the programme, but also encouraged participants to commit to the research as they felt that project staff had really helped them and their children and so they wanted to 'give something back' to the project. Many participants referred to this in the formal interviews, particularly in relation to the EMA method which involved completing a questionnaire every four hours for eight days increased from pre-post intervention, and was also maintained at the 12 month follow-up stage. Indeed, several participants did not miss any completions over the eight day period either post-intervention or at follow-up, despite some participants regularly joking among themselves and also with me about the regular research text messages being 'annoying' and 'relentless'. This was similar to the notion of *reciprocity* as a key mechanism for engagement and change, as identified by Coalter (2016).

It should, however, be noted that while this approach was very successful for the current project, it is indicative of the intense support which was required to sustain participant engagement in the overall project and especially the research components. However, a few parents also suggested they got used to, and came to enjoy, the routine of receiving text messages and completing the survey. This was also the case with the belt-wear, with the children in particular enjoying the novelty of wearing the belts during phases of the research. Before the post-intervention and follow-up stages of research, children would regularly ask me when they could wear their belts again, and several parents also suggested both they and their children were looking forward to the next phase of research. For the seven high/mid-engagers who

took part in the post-intervention research and who remained in touch with me for at least 12 months after completion of the programme. It was the relationships they had developed with the other families, project staff and volunteers which meant they wanted to remain in contact.

Additionally, while the rapport and personal relationships with both myself and the project staff and volunteers developed with families on the project was central to its success, this brought with it numerous challenges when attempting to maintain appropriate professional boundaries. While I felt that parents respected my role as a researcher and were mindful of the ethical constraints by which I had to abide, at times parents seemed to forget that volunteers also had ethical responsibilities and were in a positon of trust helping to run sessions. This meant that, on a few occasions, a number of male volunteers were put in slightly awkward situations with parents asking them for their phone numbers or to meet up outside the project. A number of children who did not have a father figure present in their lives also seemed to become quite attached to male staff members and volunteers, and on occasions were upset to leave at the end of sessions.

As trust built between myself and the parents on the project, they often began to divulge personal information such as relationship troubles or parenting issues. This was reflective of the importance of gaining an understanding of the importance of ethical issues encountered by researchers (McEvoy, Enright & Macphai, 2015). On the whole, these discussions were fairly trivial and appropriate, however on Week 8 of the project one participant opened up to myself and another participant who she had become close with, about how she had suffered with bulimia in the past and she was concerned that this would return, since the only person who had helped her to manage the condition previously was her Mother who had since died. This issue was escalated to the departmental ethics representative and also followed up with the participant over the coming week. She visited her GP and later noted that she felt the situation had been resolved and she was feeling much better. I think the biggest challenge for me as a researcher during this situation was to ensure that I did not break the participant's trust, yet still ensure that the

information was passed on for ethical purposes.

Outputs 3: Community

The nature of the activities (outputs 1), and the social relationships (outputs 2) developed on the programme were fundamental to the establishment of the social climate or 'project community' (Coalter, 2016). The programme was designed to provide an environment in which families felt accepted by each other and staff. It was this environment in which self-efficacy, intrinsic motivation, capital and a more healthful habitus were developed for some participants and which helped to maximise the impact of the programme.

Impacts 1

The opportunity to participate in the project and intervention was the starting point for the potential for families to make changes to their health beliefs, attitudes and behaviours. However, the development of trust between the families, the researcher and project staff was important to the families' engagement in the intervention sessions and supported some families to maintain the positive changes they made to their health. In this regard, as Coalter (2016), has noted, changes such as this were more likely to occur amongst smaller scale samples such as the parents in the PFP, and were most likely to be reinforced by coaching from project staff (Pawson, 2006). Reflections upon these relationships and how they impacted upon the project and the key findings can be found in Chapter 10.

Impacts 2 & 3

Alongside the developing social relationships between staff members and project participants, the relationships between and within families was vital to the success of the project. The project sessions led to parents developing a better understanding of their own health, and encouraged them to take responsibility for the various elements of their own and others' health, which led to the outcomes outlined below.

Outcomes

The key assumption which underpinned the programme theory associated with the PFP was designed to maximise the possibility of the target participants achieving the desired outcomes. While not all families achieved the desired outcomes, and/or were not able to maintain these changes over a relatively long period of time, all seven parents who remained involved in the project made at least some positive steps towards improving their physical, social and mental health. The significance of the inputs, outputs and outcomes and findings of the PFP identified within this chapter are discussed further in the Conclusion chapter.

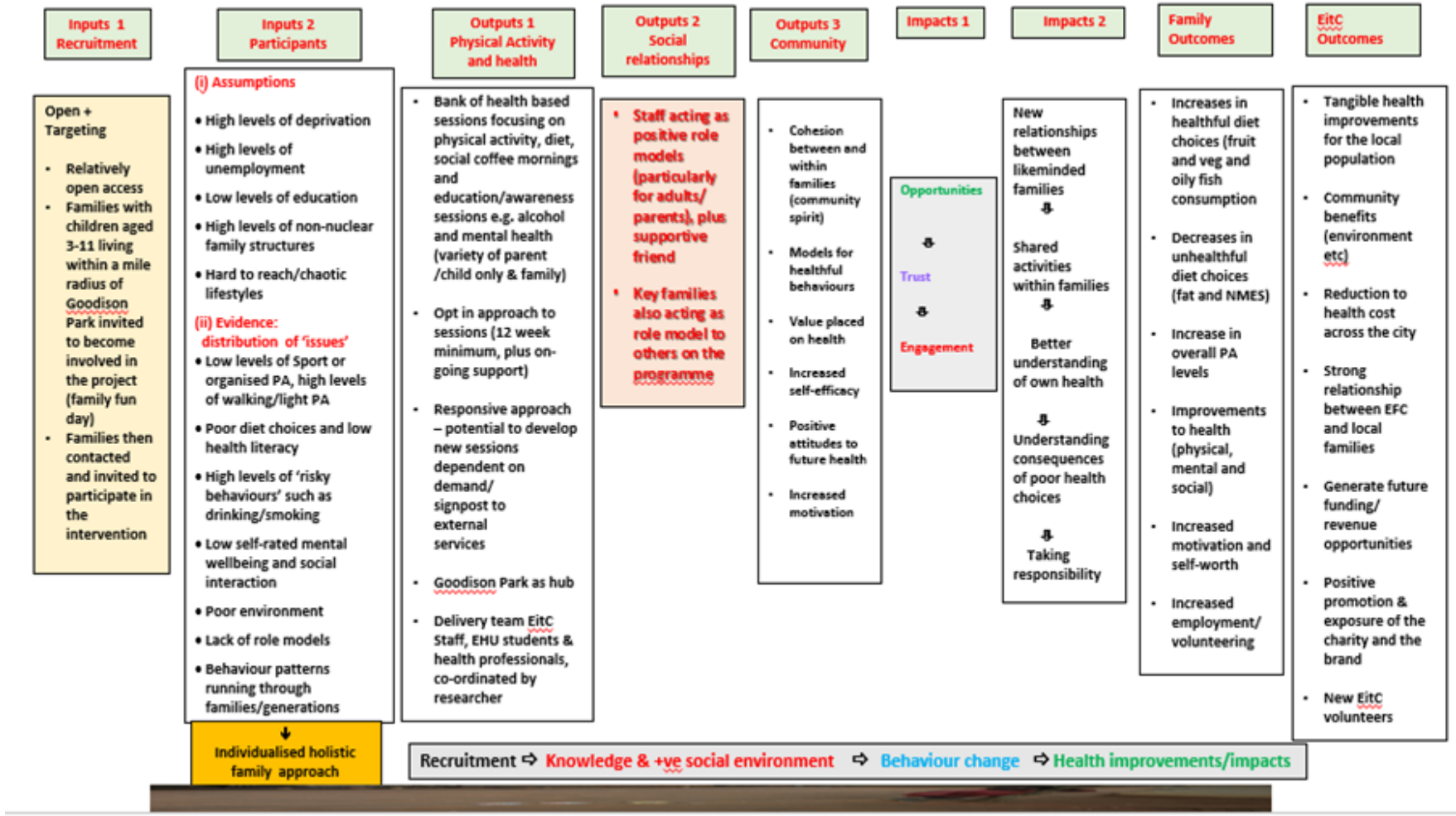


Figure 9.1 post-intervention programme theory

Conclusion

This study was undertaken within the context of rising levels of relative income and wealth inequality, which has increasingly affected the UK over the last 30 years. This was important because research has consistently demonstrated that more unequal societies have more social problems and have worse health than more equal countries (Wilkinson & Pickett, 1996; Wilkinson & Pickett, 2010). Consequently, millions of pounds are spent every day treating people (a large proportion of whom are from low socio-economic groups), who suffer from a range of health problems and conditions, many of which are occurring as a result of NCDs related to physical inactivity, diet, smoking and alcohol consumption (Woods 2013; Marmot, 2015). To date, the dominant response to this problem has been to attempt to target individual behaviour change through clinical interventions (March et al., 2015). However, as acknowledged by Wilkinson and Pickett (2014), for real improvements in well-being to be attained across the UK we need to reduce the widespread inequalities within and between communities. The purpose of this study was, therefore, to examine whether psychological constructs of behaviour change can be incorporated with key sociological theories to better understand health behaviour change amongst families living within an area of high socio-economic deprivation. This approach was central to addressing the key research questions, which were:

1) What is the social composition and health status of Everton families and how can these insights be used to inform the development of an intervention which aims to generate positive behaviour change within these families?

2) How can sociological theories and psychological concepts be used to explain processes of behaviour change amongst families involved in The People's Family Project?

3) How effective is the community-based People's Family Project in generating positive behaviour change and what are the core mechanisms and processes which help account for any behaviour change?

The purpose of this conclusion is to reflect upon the significance of the answers to these questions and both the theoretical and empirical contribution of the study to the existing body of knowledge, whilst also presenting some of the key research lessons learned, the study limitations and areas for future research.

Key study findings

The findings from Phase 1 of the study indicated that even within a relatively homogenous low socio-economic sample of families in Everton, there were still identifiable differences in the health behaviours exhibited by parents. There were also a number of links between family background and health (Lakshman et al., 2010; Wilkinson & Pickett, 2010; Marmot, 2015). The families experienced a number of physical, social and psychological constraints which often prevented them from engaging in positive health behaviours, particularly PA. However, parents expressed a desire to be healthy and also noted how having children increased their engagement in health behaviours including PA, diet, smoking and alcohol.

The results of Phase 2 and 3 demonstrated that the intervention made a contribution to improving patterns of MVPA alongside dietary behaviour and self-rated mental well-being of the families involved in the PFP. In particular the process of engaging in socially orientated PA was important for parental engagement in the programme and in some cases provided participants with emotional, informational, companionship and validation support (Lox et al., 2014). Children also played a key role in both parental/family engagement in the project sessions, and maintenance of healthful behaviours. However the programme had less impact on smoking and alcohol behaviours.

The key conclusion that can be drawn from the study is that despite the theory driven approach to intervention design and delivery, this was constrained significantly by the families' broader social contexts and relationships which were in turn tied to experiences of socially structured inequality. As researchers such as Case et al. (2004), Wilkinson and Pickett (2010) and Hartas (2014) have noted, it was not that parents lacked aspiration, and in some cases (particularly related to PA and diet), motivation to lead healthier lives and provide children with the best possible life chances, but they often lacked the appropriate resources and opportunities to do so. This appeared to be explicitly linked to their social position, and to an extent, gender. In particular, the parents involved in the current study were all female, the majority of whom had sole or primary responsibility for caring for their young children, therefore engagement in individual and purposeful PA following the intervention was often difficult.

The significance and contribution of the study

The significance and contribution this study makes to the existing body of knowledge is two-fold. Firstly, the attempt to incorporate psychological constructs of behaviour change alongside the key sociological theories to help explain the health, PA and sedentary behaviours of the families studied, offered a novel opportunity to maximise knowledge from both disciplines to develop an intervention which provided families from an area of high socio-economic deprivation with an opportunity to begin to positively change their health behaviours. Secondly, the theoretically-informed empirical findings which were explored using a combination of quantitative and qualitative methods - provide a key insight into the process of engaging with families from a hard-to-reach demographic over an extended period of time, alongside an opportunity to explore the health behaviours, mechanisms and processes of behaviour change amongst the families being studied. These theoretical and empirical contributions to knowledge are discussed in detail below.

Theoretical contribution to knowledge

As noted earlier, this thesis sought to draw upon the disciplines of sociology and psychology, and through the application of an ecological framework, incorporate psychological constructs of behaviour change (self-efficacy motivation) alongside the key sociological theories of figurations, networks of interdependency, habitus, power and capital, to help explain the health, physical activity and sedentary behaviours of the families studied. This approach was adopted since the majority of health-based interventions (even those conducted in community-based settings), which have previously been designed employed and evaluated, have most frequently drawn exclusively upon psychological theories and models of behaviour change which do not successfully account for the wider social influences on health behaviours (Mansfield et al., 2015). However, there is growing attention being paid to developing effective behaviour change by sociologists interested in sports-based health programmes, which often include the integration of psychological concepts such as self-efficacy and motivation (Coalter, 2007, 2016).

The programme theory approach to intervention design, which was informed by the theoretical framework and concepts, was used to describe and explain the mechanisms of behaviour change which some families underwent as a result of engaging in the intervention, but was also used to help design the intervention itself and inform the programme evaluation and approach to research (Pawson, 2006). This approach furthers understanding about the context in which change occurred (or in some cases did not occur) within the current study, which can be used in the development of future interventions but as discussed in more detail in the forthcoming sections, can also have clear policy implications.

Roberts (1999) draws attention to the fact that many concepts which feature in sociology (e.g. personality and identity) are traditionally psychological concepts which are explored in slightly different ways. Further to this, the need to incorporate psychology as a necessary part of sociology has also been recognised by many authors (Robert, 1999; Elias, 2000; Marmot, 2015).

However, the simultaneous use of sociological theories and psychological constructs of behaviour change is still not commonly done, particularly in the field of sport, PA and health (Smith & McGannon, 2015). This thesis sought to begin to overcome this issue, and reconcile the two disciplines. However, despite the overlap between the two disciplines and key theories and concepts selected for the current study, it is suggested that the psychological concepts utilised over-simplified relationships and placed too much emphasis on individual behaviour change. Consequently, this suggests that health is the responsibility and choice of individuals as opposed to being sociologically structured (Annandale, 2014), which was somewhat at odds with the sociological theories adopted. Therefore a comprehensive integration of the sociological and psychological theories and concepts was not successfully achieved within the current study.

It can be suggested that while the notion of behaviour change is often attributed to psychology, the concept of habitus, which incorporates attitudes, motivation, norms and perceptions of self-efficacy provided a more comprehensive framework for understanding behaviour change within the families involved in the PFP. In particular providing a greater insight into the 'presence of the past' (Burke et al., 2009). It is proposed that a more thorough understanding for how different kinds of motivation and self-efficacy impact on parents and families, can only be achieved through gaining an insight and understanding into the networks and figurations in which they are a part of. This is consistent with Elias' view that an appreciation of the psychological nature of the development of human behaviour or; habitus, and how this continues to change and develop over time (psychogenesis), can only be adequately understood with reference to changes in the surrounding social relationships (sociogenesis).

While the intervention was a sports-based health intervention, the positive changes which some families began to make during their time on the intervention and thereafter, occurred less as a result of the connection with a football club as is commonly claimed (e.g. Parnell et al., 2012; Curran et al., 2014), and more as a result of the social relationships which developed

between staff and family members and within and between families on the project (Pawson, 2006; Coalter, 2016). Therefore, it was less about the location of the sessions and more about the project context which was central to its success in engaging and retaining a small number of hard-to-reach families and in some cases facilitating behaviour change. Indeed, as Coalter (2016) has noted, engagement in any type of PA is a *necessary condition* to obtain any of the benefits associated with participation in PA (such as health improvement). But, more importantly, it was the fundamental relationships which developed through the programme which provided the *sufficient condition* for most families making at least some positive behavioural change. In particular, the data presented in this thesis pointed towards the significance of habitus and context in providing the foundations of these conditions and in shaping behaviour and choice, which were in turn constrained by the interdependence of families with others on a face-to-face and non-face-to-face basis.

More specifically, during the intervention staff provided parents with opportunities, knowledge and capital which in some cases helped develop cognitive, emotional and physical internal competencies and especially the development of self-efficacy (Bandura, 1986). It was these developments that, over time, encouraged some parents to become intrinsically and autonomously motivated to engage in more healthy behaviours (Ryan et al., 2008). Parents were also vitally supported and encouraged by other project participants, and importantly their children, while attending the sessions. This led, in some cases, to the reformation of habitus – via processes of secondary socialisation – and engagement in new health behaviours or practices, while children were exposed to positive experience early in life, via primary socialisation, primarily with their parents. In many cases children then became important sources of support and motivation in the months following the intervention. This supports Elias's (2000) viewpoint that while habitus is relatively set during the impressionable phase of childhood and youth, it can and does change as people's lives unfold. This was true for the parents in the study, whose behaviours and predispositions did at least partially change as a result of participation in the intervention. However, this also helps to provide

an explanation for how members of parents' figurational networks may have also impacted on parents' ability to maintain behaviour during, and following, the period of intervention.

Empirical contribution to knowledge

The quasi-longitudinal design of the study, which incorporated a range of quantitative and qualitative methods, was able to provide an in-depth insight into the process of recruiting/engaging and retaining hard-to-reach families from an area of high socio-economic deprivation. In particular, the importance of building rapport and establishing trusting relationships prior to the facilitation of a health intervention was considered vital to the success of the PFP. The social benefits that can be generated by community-based projects can also be considered essential for families from this type of demographic. However, parents also required high levels of support and prompting throughout the intervention period, which allowed them to commit to both session attendance and engaging with the research components. These insights can be used to inform the design and delivery of future EitC or FitC interventions for hard-to-reach groups.

In addition, the approach taken was also able to shed light upon the processes and mechanisms of behaviour change. In this regard, the thesis went beyond previous investigations that have focused exclusively on short-term tangible and often quantitative intervention effects or outcomes, and began to identify behavioural outcomes (such as increased PA and/or improvements in diet). The research also focused on health outcomes such as parents' self-perceived improvements in physical, social and mental well-being, while identifying some of the key theoretical concepts that help explain how and why families were able to make, and in some cases sustain, positive changes to their health.

The long-term behaviour and lifestyle changes made by some parents in the months after the intervention would have been missed without the 6- and 12-month follow-up time-points being included in the study design. Many of the

notable changes in behaviour that occurred in Phase 2, also would not have been achieved without the strong emphasis placed on the social relationships which developed between families and between staff and families (Lox et al., 2014; Coalter, 2016). It was these core social relationships which led to some families making physical changes to their health, and which was associated with improvements in mental well-being being during the intervention period. This provides further evidence for the efficacy of community-based approaches to behaviour change, rather than clinical intervention, within this type of demographic of hard-to-reach families.

Where families were unable to maintain the positive changes they had made to the various (physical, social and mental) health dimensions, this was often as a result of the deterioration in relationships which were so central to the positive changes which occurred during the project intervention (Molloy et al., 2010). Another novel finding from the study was that the children involved in the project were able to positively influence parental (and wider family) health, both during the intervention period and in the months that followed. It should be noted that these insights into the importance of the social element of the programme were identified because more qualitative methods (namely, semi-structured interviews) were incorporated into the research design of the study, supported by insights gained from the production of a research diary that collectively enabled the exploration of families' experiences on the project. These qualitative insights were reinforced by the quantitative methods of accelerometer data, EMA and self-rated mental well-being which provided objective and tangible evidence of the impact of the intervention on families' health behaviours and (mental) health outcomes.

Policy implications

Given the preceding comments about the study's theoretical and empirical contribution to the existing knowledge base, there appears a lack of accessible policy-ready systematic evidence available on what works within interventions to reduce inequalities in health (Brambra, Hillier, Cairns et al., 2015). It has also been suggested that the majority of policies and interventions which have

been implemented to date fail to adequately address the underlying structural inequalities which are at the root of these behaviours exhibited by both individuals and communities (Coalter, 2007; Brambra et al. 2010; Mansfield, 2015). The results of the current study provide further evidence to support these claims, as the implementation of a holistic family-based community intervention was able to engage families from a low socio-economic group who exhibited various risky health behaviours (such as low levels of PA and high levels of smoking). These families otherwise may have not had the desire or opportunity to engage with traditional health services or make steps to improve their health, and the intervention had at least some positive impact on the health behaviours of the families being studied. However, as discussed previously, the intervention had less positive impact upon alcohol consumption and smoking behaviours of parents. While this may have been partly a result of the design of the project, it also highlights the challenges associated with attempting to change deep-rooted and habitual behaviours over a relatively short period of time.

The limitations of policy in relation to engagement in PA have been widely acknowledged in the literature, which has suggested that participation is often facilitated and constrained by a wide range of factors which fall outside of the direct control of policy-makers. This subsequently limits the extent to which policies in this area are able to have the desired impact on both individuals and groups (Coalter, 2007, Coalter, 2016). This is particularly important given one of the targets identified within the new 2015 Sporting Future (HM Government, 2015:19) strategy document is to get ‘more people from every background regularly and meaningfully: a) taking part in sport and physical activity b) volunteering and c) experiencing live sport’. Similarly, the recently released Sport England (2016) strategy places a much stronger focus on tackling inactivity, particularly of people from underrepresented groups (including women and those from low socio-economic groups), alongside a continued investment in children and young people.

The results of the current study highlight the informal and incidental nature of parental PA, with much of the weekly accumulated light and moderate activity

being derived from active travel and housework duties. While the weekly total levels of activity can be considered fairly high, parents failed to meet the UK PA guidelines (Department of Health, 2011) due to a lack of accumulation of MVPA through bouts of >10 minutes of activity. This highlights a need to review the current PA guidelines, to set more realistic national targets for PA which are achievable by individuals from a variety of different backgrounds and circumstances. (Weed, 2016). There is also little research which validates the current guidelines in relation to how these work in the 'real world', and in the case of the current study context how they fit in with the realities of family life in communities which are often chaotic and lead to the de-prioritisation of parental health. Results of the current study also highlight how making small changes to health, particularly through engagement in light and informal PA such as walking, may lead to greater benefits to overall well-being in contrast to the promotion of more intense and structured PA and sporting activity (Downward & Dawson, 2015). This was adhered to in the Sport England (2016) strategy, with a recognition that the biggest health gains and subsequently, the best value for public investment is found in targeting those who are the least active.

Since the intervention had less positive impact upon alcohol consumption and smoking behaviours of parents, the most effective strategy to reduce health inequalities and improve the health of those at the bottom of the social ladder, is still the reduction of the widening income and wealth inequalities in the UK (Wilkinson & Pickett, 2014), which requires further long-term political intervention from outside the realm of sport and PA.

Limitations of study and areas for future research

Notwithstanding the contribution that this thesis makes to existing empirical and theoretical knowledge in the field of family health and intervention design and delivery, there are a number of limitations which should be considered when interpreting the findings reported here. Firstly, due to the in-depth and longitudinal nature of the study, only seven families took part in the intervention and also met the minimum inclusion criteria for the research elements at all

phases of study. Therefore, it can be suggested that the traditional quantitative data analysis, in the form of significance testing, may be limited due to the low number of families subjected to this type of analysis which led to low statistical power and an increased likelihood of a type I or type II error occurring (Field, 2009). However, to overcome this limitation, the study also incorporated a number of alternative approaches which do not rely on probability or *p* values including effect sizes (with a correction for sample size) and Q values/minimal clinical important differences (Cumming, 2012), which also provided additional information about the practical importance of the study findings (Field, 2016). The inclusion of qualitative methods also helped to further explore participants' views on the impact of the intervention of health and family life.

Secondly, as discussed in Chapter 6, more female parents were represented in the results of the current study despite attempts to encourage whole families to attend project sessions and participate in the research. While 15 adults (from 14 families) took part in the baseline research period, there were just two male parents involved in the research study, neither of whom engaged with the intervention sessions, A further two did not engage in any research elements, but had limited engagement with the project sessions and/or related activities (such as attending end of intervention celebration events). This occurred primarily as a result of female parents predominantly taking responsibility for childcare and family activities and is not atypical of other family-based research studies (Brown et al., 2015). However, the over representation of females was also reflective of the make-up of many families living in areas of high socio-economic deprivation, which often feature a high prevalence of single mothers and, in the case of nuclear or blended families, the tendency for mothers to be unemployed/undertaking childcare duties while male parents/step-parents go out to work, often for long-hours. It can also be further suggested that due to the homogenous sample of participants (all of whom lived within a very specific geographical area) in the study, it is difficult to draw firm conclusions about the extent to which the findings can be generalised to other families living within other high socio-economically deprived areas of the UK.

Thirdly, while the project was family-based and both parents and children attended sessions, the majority of research was conducted with parents, with children only contributing to accelerometer PA data and qualitative focus group research. This was due to the age of the children targeted through the study, and the complex nature of the research elements in relation to dietary behaviours and mental well-being. Therefore, less is known about the impact of the project on the health behaviours of the children involved in the study. Finally, while the project was designed to be holistic in nature and provide families with the opportunity to make changes to various health behaviours, the complex design and flexibility associated with this type of project means it is difficult to establishing cause and effect between the behaviours observed and participation in the intervention (Horodyska et al., 2015). As noted by Coalter (2016), even when adopting a programme theory approach, the path from recruitment to outcomes is neither simple nor linear, and even within the context of the current study, there was some amount of variation in results and how these results were achieved by families.

Finally, while a phased approach to research design was adopted and formative research was conducted with potential intervention participants in Phase 1 before the intervention was implemented in Phase 2, a feasibility and piloting phase was not included in the research design. An inclusion of this phase may have allowed for a greater estimation of the likely rates of recruitment/retention and the calculation of appropriate sample sizes (MRC, 2006). However, the intervention was conducted with a limited budget with a 'hard-to-reach' group of families classified as amongst the most deprived nationally, who often resist and are reluctant to engage with traditional health services or programmes. (Flanagan & Handcock, 2010). It was therefore, not deemed practical or ethical to conduct an additional pilot phase, thus increasing participant burden and limiting the amount of funding which was available to conduct the study (Bacchetti, Wolf, Segal et al., 2005).

To conclude, the findings of this study suggest a need to conduct further research into family-based interventions, to test the adequacy of the findings reported here and explore whether the results reported here can be replicated

with other families and groups, not only within the Everton area but also within other socio-economically deprived areas of the UK. Doing so may help to further unpick the precise conditions and contexts for behaviour change within a variety of different family types. Additional research on the real life significance and impact of programmes on family life is also warranted. This is particularly the case as it can be suggested that in some circumstances, especially in the case of 'hard-to-reach' groups, even small improvements in the physical, social and mental health behaviours can have a notable positive impact on health outcomes and the quality of family life. The inclusion of more quantitative measures of health outcomes (e.g. questionnaires to investigate social health outcomes alongside physiological measures which explore health changes e.g. blood pressure, heart rate, cholesterol or measurements of cardiorespiratory fitness) in future research of this type would also be beneficial.

While the study was longitudinal in nature, with research being carried out over a period of 20 months, the full extent of the impact of the intervention, particularly on social health outcomes (e.g. social capital) may still not have been fully apparent at the 12-month follow-up point. Therefore, continuing to follow-up the impact of the intervention on the families involved in the study would be advantageous (Bauman & Nutbeam, 2014). In addition, despite the aforementioned challenges associated with recruiting male parents/care-givers (particularly those from 'hard-to-reach' groups in research and intervention delivery), further research is warranted to investigate whether the mechanisms and processes of behaviour change are the same for this type of group. While the current study offers some insights into qualitative methods of undertaking research with young children, further investigation of the impact of such interventions on the dietary behaviours of children is needed, alongside an exploration of children's mental and social well-being.

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Appendices

Appendix I: Phase 1 – Structured interview guide

PHYSICAL ACTIVITY AND FAMILY LIFE: A CASE STUDY OF EVERTON FAMILIES

Everton in the Community/Edge Hill University

Parents' Biographies

To help us with our research, it would be most appreciated if you were able to spend a few minutes answering the following questions which will enable us to fill out the table below.

	Female Parent	**Male Parent**
Name		
Age		
Marital status	Single Married Living with partner Separated Divorced Widowed	Single Married Living with partner Separated Divorced Widowed

Disability/ long standing illness	No Yes_____ _____ ____	No Yes_____ _____ ___
Highest level of education	GCSE's or equivalent A levels BTEC or equivalent Technical/trade certificate University/tertiary qualification None of the above	GCSE's or equivalent A levels BTEC or equivalent Technical/trade certificate University/tertiary qualification None of the above
Current employment status	Unemployed Employed/self-employed – full time Employed/self-employed – part time Retired Full time student Homemaker Unable to work	Unemployed Employed/self-employed – full time Employed/self-employed – part time Retired Full time student Homemaker Unable to work
Home postcode		
Accommodation details	Own my own home Rented property Registered Social Landlord Living with parents/family member Other _____	Own my own home Rented property Registered Social Landlord Living with parents/family member Other _____

How many people currently live in the same house as you?	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10
Dependent children and ages	1_____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7_____	1_____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7_____
Childcare arrangements	Nursery/school Child minder/nanny Parental care Workplace childcare Other family member_____	Nursery/school Child minder/nanny Parental care Workplace childcare Other family member_____
Do you currently take part in Sport/Physical Activity?	No Yes less than once a month once a month 2-3 times a month once a week twice a week 3 times a week or more	No Yes less than once a month once a month 2-3 times a month once a week twice a week 3 times a week or more

Do you currently smoke?	No Yes Less than 10 cigarettes per day 10-20 per day 20-40 per day 41-60 per day 61+ per day	No Yes Less than 10 cigarettes per day 10-20 per day 20-40 per day 41-60 per day 61+ per day
Do you currently drink alcohol?	No Yes Every day 6 times a week 5 times a week 4 times a week 3 times a week twice a week Once a week Occasionally	No Yes Every day 6 times a week 5 times a week 4 times a week 3 times a week twice a week Once a week Occasionally

Appendix II: Phase 1 - Parents semi-structured interview guide

Introduction/family structure

As you all know I am going to be talking to you about health and the types of things that you like to do as a family today……..

- So I know from the forms that we've got ……(PARENTS NAME) and …….. here today but I can also see you've got a couple of little ones here. So do you want to tell me your names and how old you are?

- Is there anyone else who lives in the same house as you who isn't here today?

- Is there anyone else who is in your family who doesn't live with you but you see regularly/you would class as a close member of your family?

Understanding of health

- What do you understand by the word health?

- What do you think a healthy lifestyle is/involves?

- Given this how would you describe your lifestyle – do you think you are healthy/a healthy family?

Smoker – So you said that you don't smoke, what do you think this means for your health?	**Non Smoker –** You said you smoke (***) a day so what do you think this means for your health?
Don't drink – You said that you don't drink/only drink very occasionally so what do you think this means for your health?	**Drink –** You said that you drink (***) what sorts of things do you drink? How much would you normally drink on an average day/night out? What do you think this means for your health?
Don't take part in sport/PA – You said that you don't take part in any sport/PA so what do you think this means for your health?	**Participate in sport/PA –** You said that you take part in sport and PA (***) so what do you think this means for your health?
Diet – would you say you have a healthy diet? Why/why not	

Current family lifestyle & in home leisure

- Can you talk me through a typical week day for you/your family?
- Can you talk me through a typical weekend day?
- So what do you all like to do in your free time when you are at home?
- Why do you like doing this?

Past family lifestyle & in home leisure

- Okay so (****) is how you currently spend your time during the week at home similar to what you did in the past? What about at the weekend?
- Can you talk me through a typical week day for you/your family when you were growing up?
- Can you talk me through a typical weekend day for you/your family when you were growing up?
- Why did you like spending your time in this way?

Out of home leisure

- What sorts of things do you like to do as a family in your spare time when you're not at home?
- Where do you do this?
- Why do you like doing this?
- So have you always done these things or are they new?

Past out of home leisure

- Is there anything that you used to do in the past as a family which you don't do now? Why don't you do this anymore?

- What sorts of things did you like to spend your time doing when you were growing up (outside the home)

- Where did you do this?

- Why did you like doing this?

- Who were you with when you were doing this activity?

Participation in PA

Start this section by using the show cards – do you ever take part in sports like these? Do you ever do any physical activities like these?

If mention sport/PA	**If they don't**
So you mention you take part in ……. why do you choose to take part in these activities as opposed to others?	So you don't take part in any physical activities, why is this?
Where are you when you are taking part in physical activity?	Have you ever taken part in physical activities in the past? – if so why did you stop doing them?
Who are you with when you doing these activities?	
Have you always done these activities/when did you start doing them?	

Repeat table questions for all other family members*

- Do you enjoy doing physical activities 1) Individually 2) with your family – why or why not?

- Are you aware of any physical activity opportunities for families in the local area?
- If yes, do you make use of these? Why/why not?
- If no (children under 5), did you know that Everton Children's Centre have active family fun sessions on a Monday from 3:30-5:30pm?

- Is there anything that prevents you from taking part in sport/physical activities more often?

– Individually

– As a family

- What, if anything might encourage you to participate more/more regularly?

- How, if at all, has your participation in sport and physical activity changed since having your own family?

Past family lifestyle/participation in PA

- What things, if any, would you say have influenced your current involvement in sport or physical activity?

- Was there anything you wanted to do that you couldn't in your spare time when you were growing up?

Okay, brilliant so that's all the formal questions out of the way so I will now turn the tape off. Just before you go back to the fun, I just want to ask you a final few things about Everton in the Community.

1) Have you ever been to any events of activities organised by EitC before

No

Yes – what did you think of these activities?

2) If we were to put some regular sessions on through EitCwould you be interested in attending?

No

Yes – What days & times would be best for you?

What times would be best for you?

Where would be best for you?

3) Would you like to leave your contact details/address so we can contact you with any

Appendix III: Phase 1 - Staff semi-structured interview guide

As you all know I am going to be talking to you about the health of local families, your ***experiences and knowledge*** *of these families and what type of intervention you feel would be best implemented in the area so to start of……*

Knowledge of local families

- What is your job role in relation to families within the area?
- What types of projects/programmes have you been involved with in the past?

- Based on your experience what would you say are the characteristics of local families?

- How many family members
- What types of family structures exist?
- Income/employment status?
- Living arrangements?
- How do these families typically spend their time? – Why do you think this is the case?

- What do you understand by the world health?

- What do you think a healthy lifestyle is/involves?

- Given this how would you describe the lifestyles of local families– according to your experience in the past do you think they are healthy families?

Smoking behaviours – What would you say about the smoking behaviours of local families you have worked with in the past? What do you think this means for their health?
Drinking behaviours – What would you say about the drinking behaviours of local families you have worked with in the past? What do you think this means for their health?
Sport/PA – What would you say about the physical activity patterns of local families you have worked with in the past? What do you think this means for their health?
Diet – In your experience would you say families in the area have a healthy diet? Why/why not
Other – Is there anything else which affects the health of local families?

Family structure and physical activity

- Based on your past experiences do you think family structure has an impact on physical activity levels and health?

– if so how?

– if not why not?

- To your knowledge what type of families are

– most likely to take part in sport and physical activity

– least likely to take part in sport and physical activity?

- What barriers exist which prevent families from being more active/leading healthier lifestyles? – What are you basing this on?

- What can be done to try and remove or limit these barriers?

- Do you feel any projects you have worked on in the past have been able to do this successfully? Why/why not?

Intervention

- In your experience what events have been particularly successful for families the past? – Why do you think these events have been particularly successful as opposed to others?

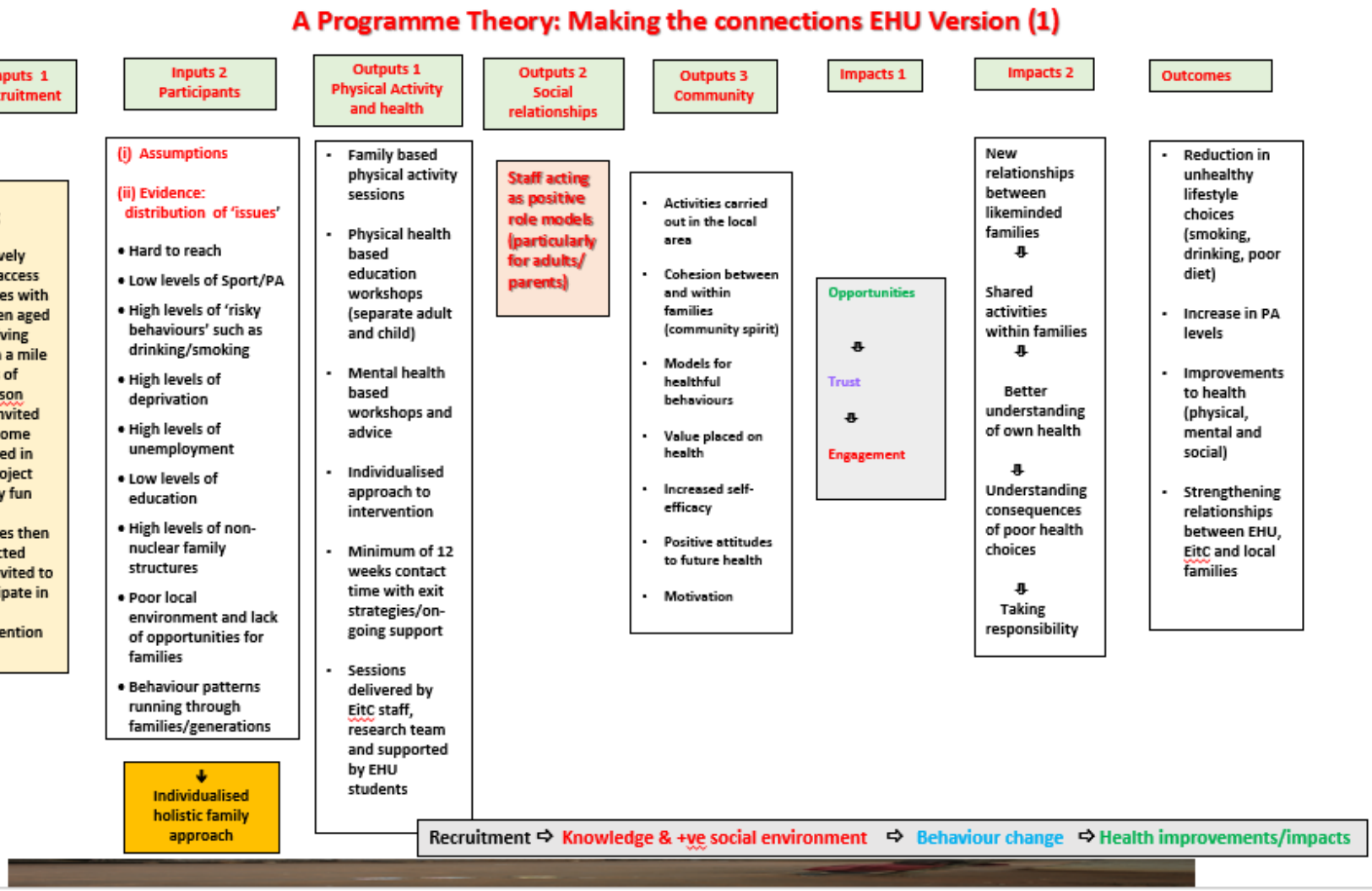
- What do you think needs to be done to try and get families in Everton more active?

- We are keen to take on board both opinions of staff and families in the area which will help us to design an intervention which can be delivered locally to try and increase physical activity levels and change sedentary behaviour patterns across generations. What type of intervention would you like to see offered?

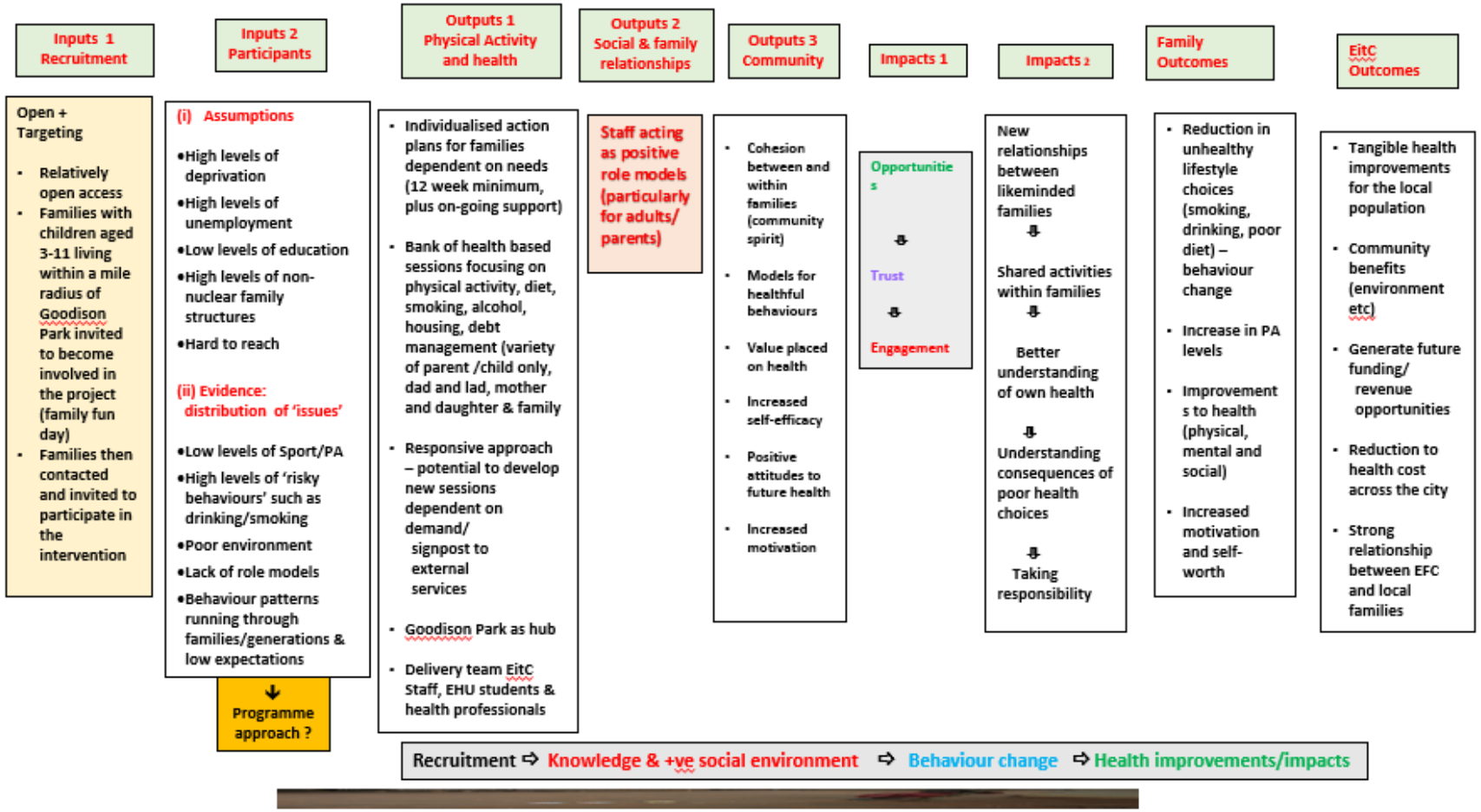
- Why do you think this would be the most appropriate intervention?

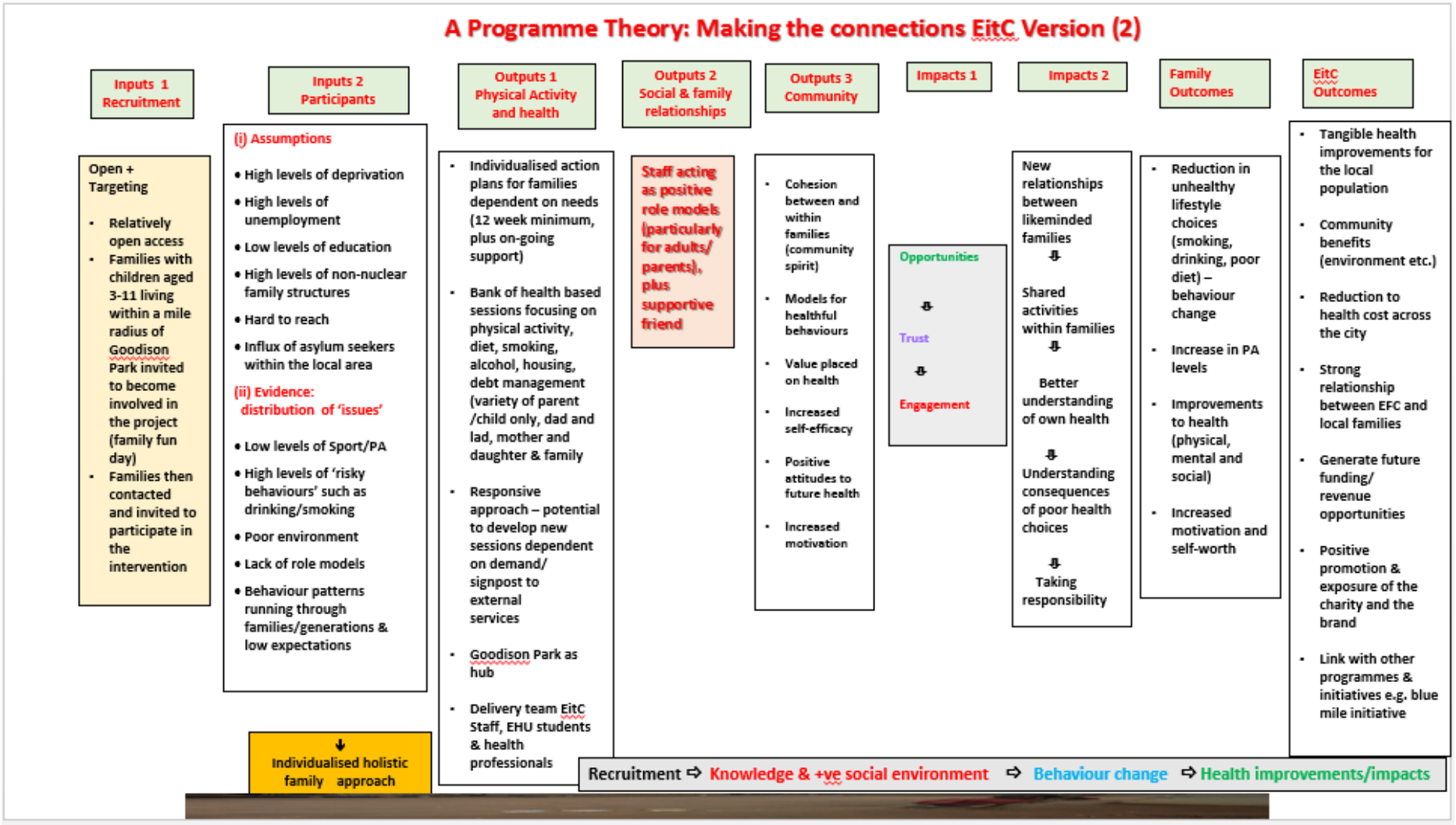
- How would this work? - What days/times would sessions be run - How long would sessions last for and who would be encouraged to attend –where would the sessions be held?

Appendix IV: Programme theory models

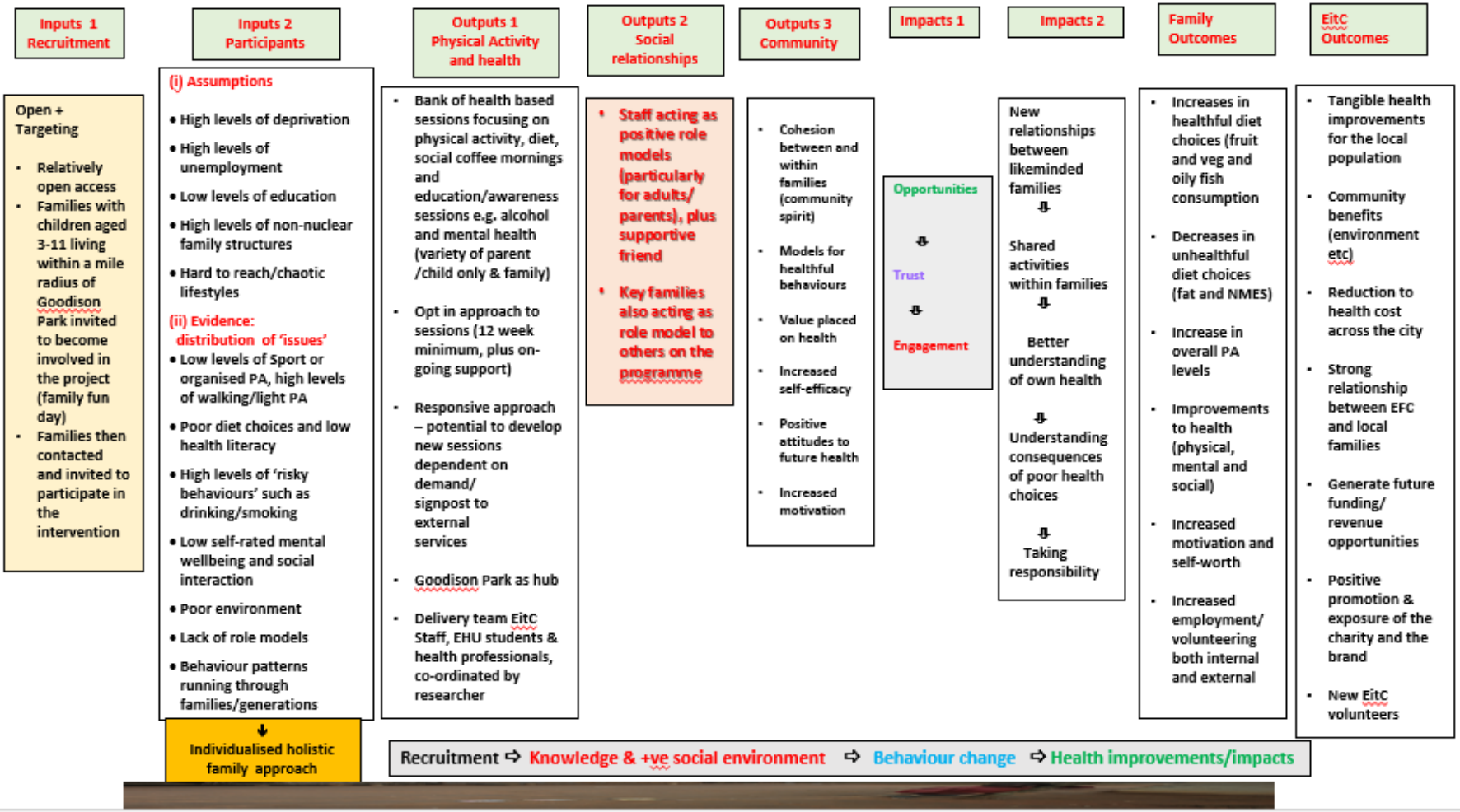


A Programme Theory: Making the connections (EitC Version 1)



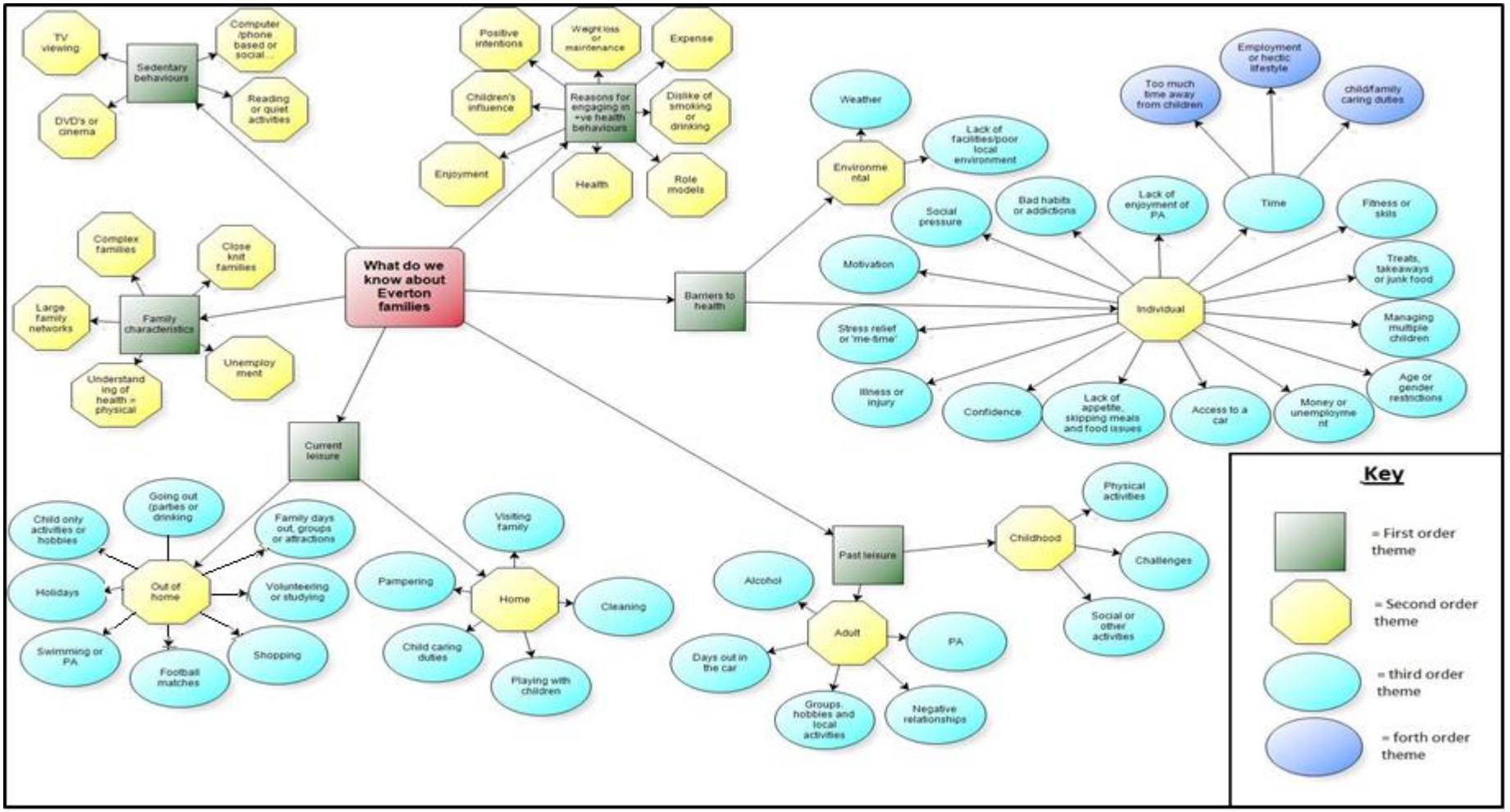

A Programme Theory: Making the connections EitC Version (2)
Inputs 1 Recruitment
Inputs 2 Participants
Outputs 1 Physical Activity and health
Outputs 2 Social & family relationships
Outputs 3 Community
Impacts 1
Impacts 2
Family Outcomes
EitC Outcomes
Open + Targeting
Relatively open access
Families with children aged 3-11 living within a mile radius of Goodison Park invited to become involved in the project (family fun day)
Families then contacted and invited to participate in the intervention
(i) Assumptions
High levels of deprivation
High levels of unemployment
Low levels of education
High levels of non-nuclear family structures
Hard to reach
Influx of asylum seekers within the local area
(ii) Evidence: distribution of 'issues'
Low levels of Sport/PA
High levels of 'risky behaviours' such as drinking/smoking
Poor environment
Lack of role models
Behaviour patterns running through families/generations & low expectations
Individualised action plans for families dependent on needs (12 week minimum, plus on-going support)
Bank of health based sessions focusing on physical activity, diet, smoking, alcohol, housing, debt management (variety of parent /child only, dad and lad, mother and daughter & family
Responsive approach – potential to develop new sessions dependent on demand/ signpost to external services
Goodison Park as hub
Delivery team EitC Staff, EHU students & health professionals
Staff acting as positive role models (particularly for adults/ parents), plus supportive friend
Cohesion between and within families (community spirit)
Models for healthful behaviours
Value placed on health
Increased self-efficacy
Positive attitudes to future health
Increased motivation
Opportunities
Trust
Engagement
New relationships between likeminded families
Shared activities within families
Better understanding of own health
Understanding consequences of poor health choices
Taking responsibility
Reduction in unhealthy lifestyle choices (smoking, drinking, poor diet) – behaviour change
Increase in PA levels
Improvements to health (physical, mental and social)
Increased motivation and self-worth
Tangible health improvements for the local population
Community benefits (environment etc.)
Reduction to health cost across the city
Strong relationship between EFC and local families
Generate future funding/ revenue opportunities
Positive promotion & exposure of the charity and the brand
Link with other programmes & initiatives e.g. blue mile initiative
Individualised holistic family approach
Recruitment ⇨ Knowledge & +ve social environment ⇨ Behaviour change ⇨ Health improvements/impacts

A Programme Theory: Making the connections Version 2 – post intervention

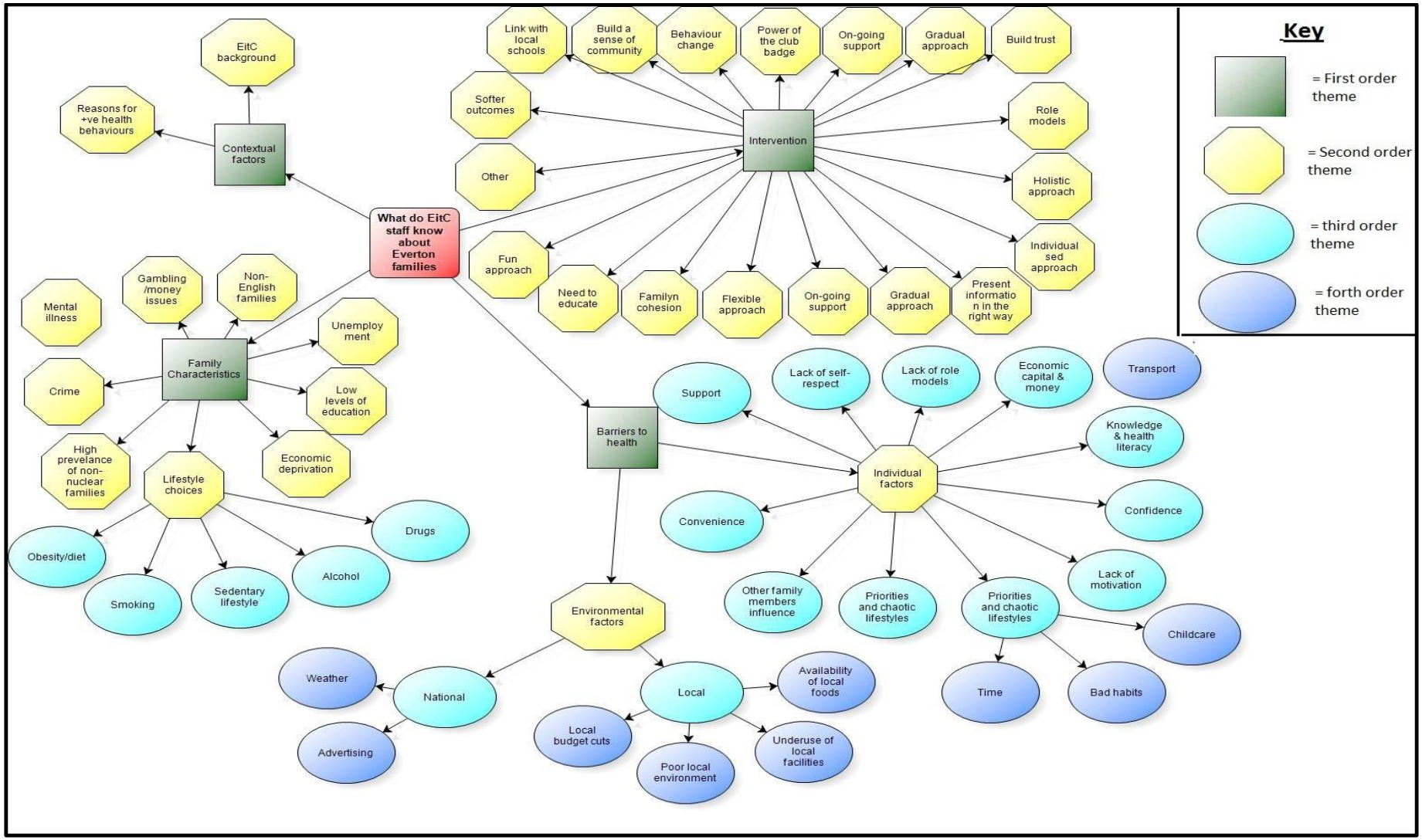


Appendix V: Qualitative summary theme models

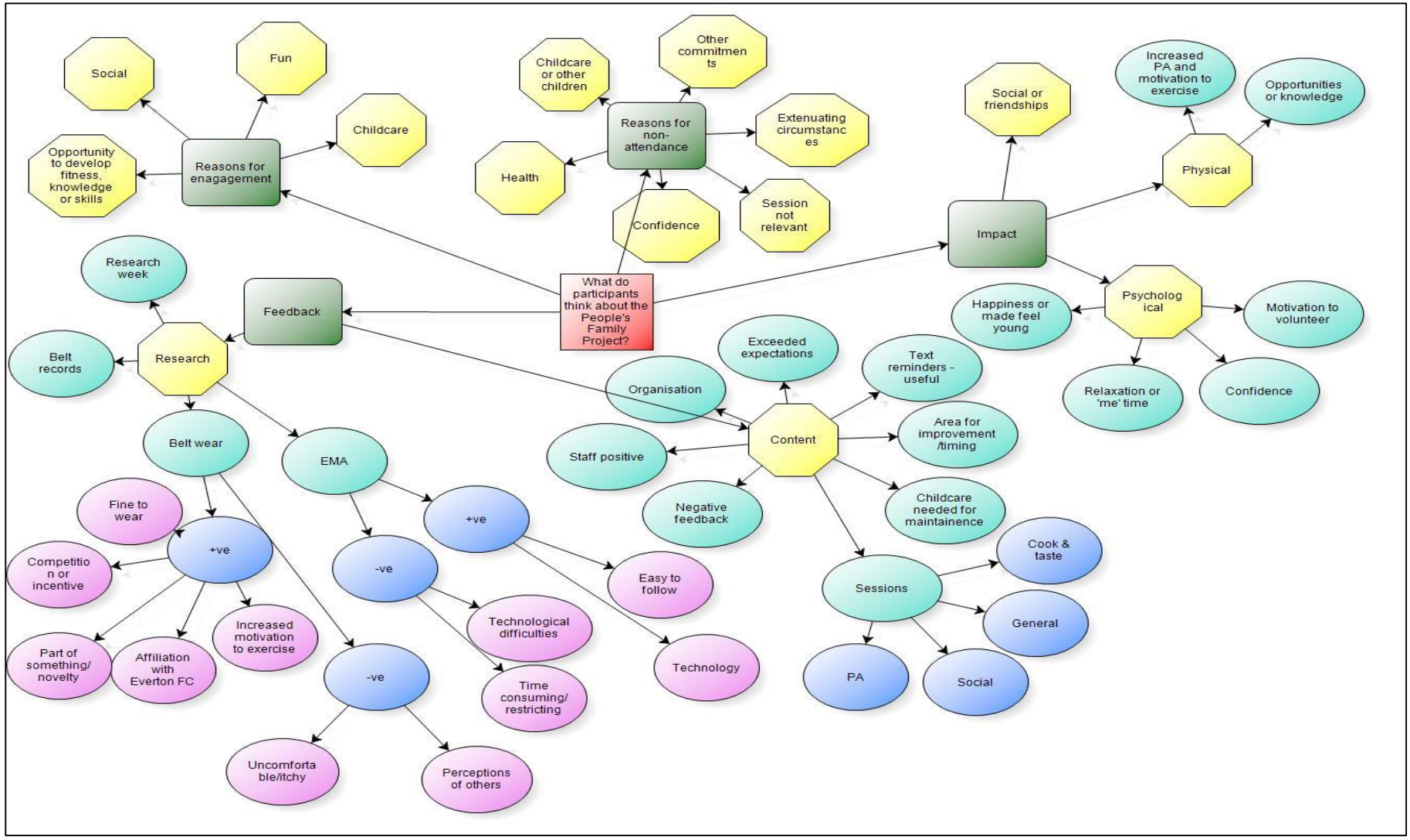
Phase 1 – family focus group themes



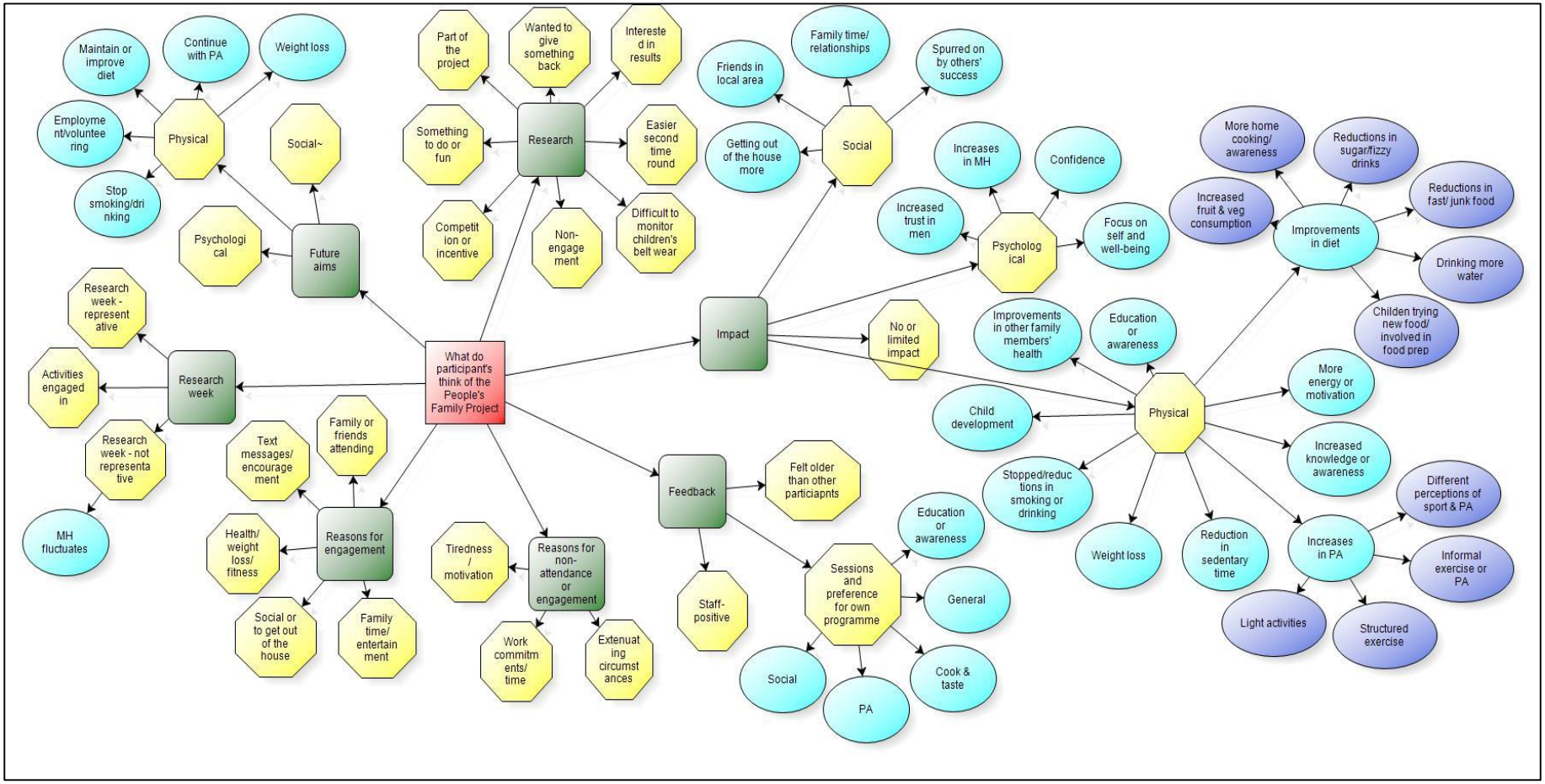
Phase 1 – staff interview themes



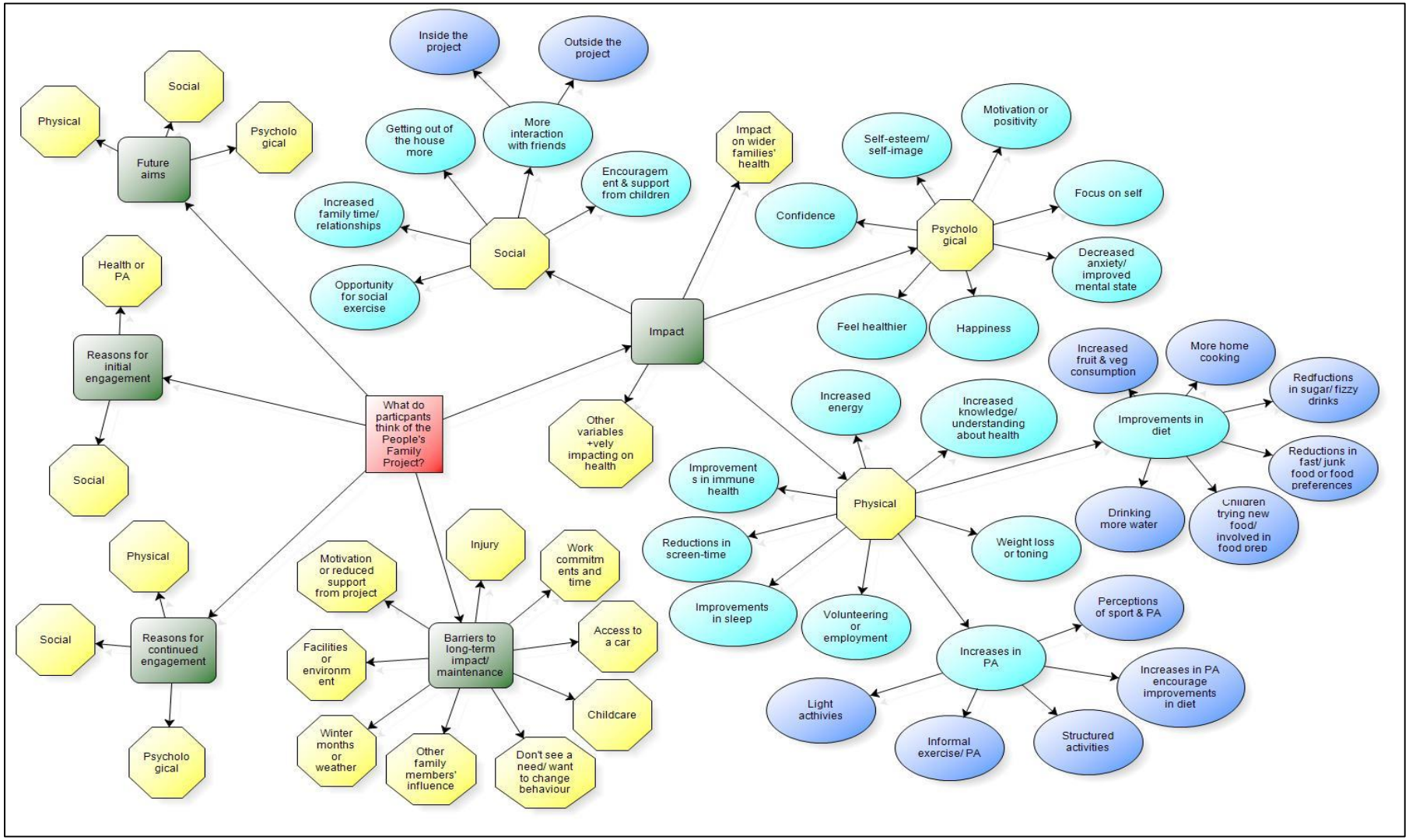
Phase 2 – mid-intervention model



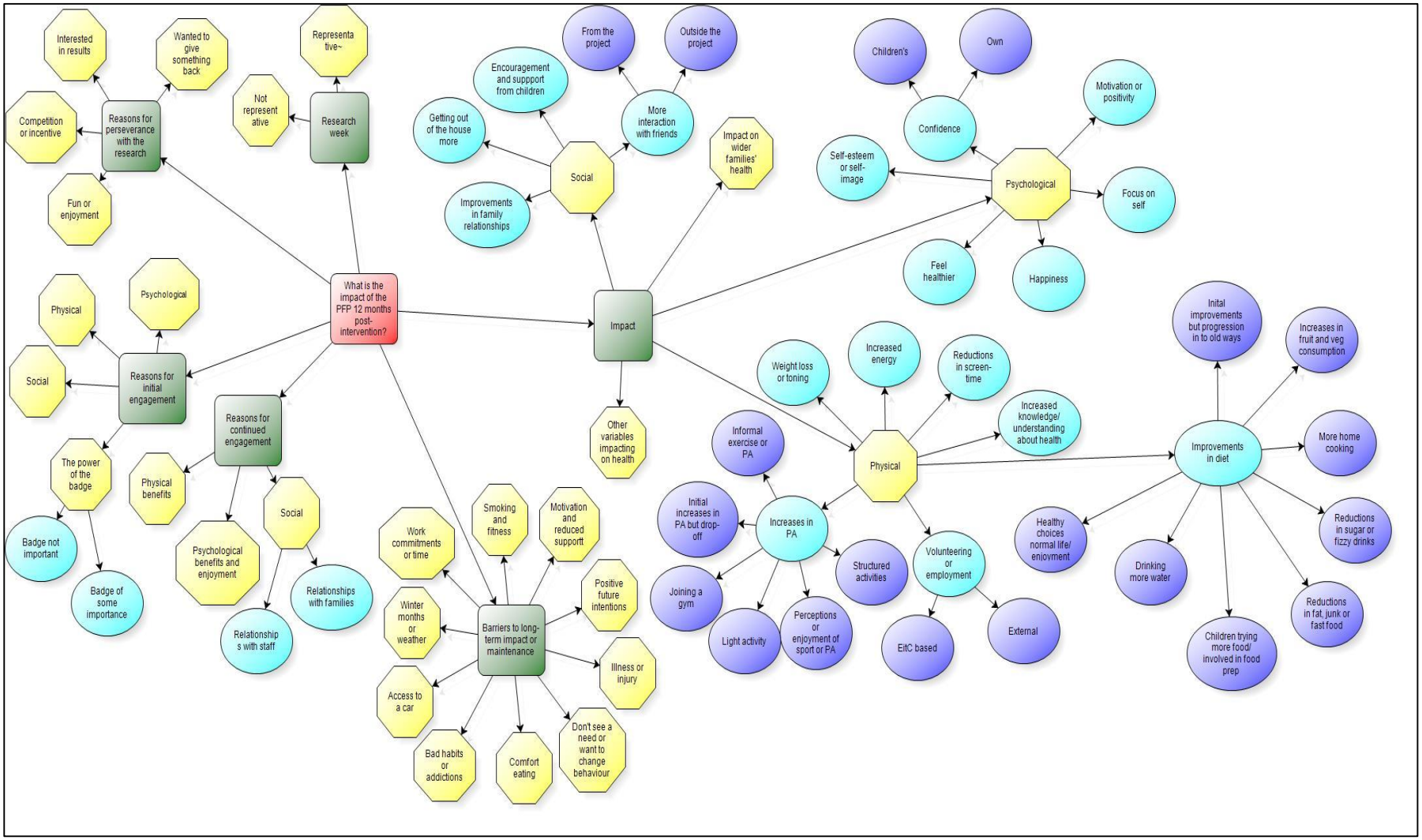
Phase 2 – post-intervention model



Phase 3 – 6 month follow-up model



Phase 3 – 12 month follow-up model



Appendix VI: Draft intervention timetable, participant information sheet and consent forms

Mondays

9:30am - Social/coffee mornings (with bolt on sessions)

3:45-5:15pm - Cook and taste sessions

Tuesdays

5pm-6pm - 1 off sessions (alcohol education/smoking/debt management/employment management/lifestyle management etc.)

Wednesdays

3:30-4:45pm Family fun

6:30pm – Yoga

Thursdays

5:30-6:30pm gym sessions/kids only sessions

anti-bullying training course on the thurs 16th october (time tbc)

Fridays

11am - walking sessions

Participant Information Sheet

Study Title: Physical activity and family life: a case study of Everton families

Researcher – Laura Houghton

You are being invited to take part in a research project. Before you decide whether to take part in or not, it is important that you understand why the research is being undertaken and what it will involve. Please take your time to read the following information carefully. Feel free to ask the researchers to explain any of the information below. Take time to decide whether you would like to take part or not.

What is the study about?

The project explores the engagement of pre-school and primary school age children in sport and physical activity and other family health behaviours.

Who is involved in the study?

The lead researcher on the study is Laura Houghton who is completing a research study at Edge Hill University. She will be supported by a team of supervisors from Edge Hill University including Professor Andy Smith, Dr Dave Marchant and Dr Evelyn Carnegie and assisted by Everton in the Community.

Why have I been chosen to participate?

You are invited to participate in this research project as a parent of children living in the Everton area who attended a family fun day event and expressed an interest in being involved in the research and attending some family based fun health and physical activity sessions.

Do you have to take part?

No. It is up to you to decide whether or not you and your family would like to take part. If you do you will be given this information sheet and asked to sign a consent form. You are still free to withdraw at any time any time while you are involved and up to four weeks after data collection without giving a reason.

What will happen if you do agree to take part?

As a family you will be invited to attend a series of weekly sessions which will be held at Goodison Park and will be specific to your families' needs (discussed in an introductory meeting with a member of Everton in the Community staff). A series of measurements will also be collected from each family member at the following times:

1) Before you attend the sessions (all information will be passed on to you at the launch event which will be held at Goodison Park on the 28th July 2014)
2) 1 week after the sessions have finished
3) 12 months after the sessions have finished

All family members involved in the study will be asked to wear an elasticated belt (accelerometer) at all times (other than when washing/bathing or swimming) for 8 continuous days. You will be asked to wear this on your hip under your clothing to provide us with information about your engagement in sport and physical activity. Over this 8 day period. We will also provide parents with questions to complete at four time points throughout the day.

We would also like to speak to you and members of your family involved in the study at two time points:

1) half way through the intervention period, to get your feedback on how you think the sessions are going and any changes we can make in order to improve the sessions for you
2) After all the sessions have finished about how you think the sessions went and also the impact that you feel the sessions have had on your physical activity levels and health.

What are the risks/benefits of being involved?

There are no anticipated risks or discomforts involved in this study.

The expected benefits of taking part are as follows:

- You and your family will be given the chance to attend free weekly health sessions tailored to your needs and held at Goodison Park
- You will learn more about how to be fit and healthy as a family
- Your comments will help inform the design of future programmes for children and parents all over Merseyside and elsewhere

What happens after the study finishes?

This phase of the research study is due to last approximately 12-18 months. After this, the findings of this study will be written up and be discussed in presentations and articles in academic and professional journals.

Will my participation be anonymous and confidential?

All data will be stored on a password protected computer accessible only by members of the research team.

Upon completion of the research, all records will be destroyed in compliance with relevant University procedures. You will not be referred to by name in any research publications and every effort will be taken to protect your anonymity in any such publication.

Disclosure and Barring (DBS) Checks (previously CRB Checks)

All members of the research team and Everton in the Community are fully qualified and have been DBS checked at the enhanced level.

What happens if you change your mind about being involved?

Your participation in this study is completely voluntary and are free to withdraw from the study at any time should you want to.

Thank you for taking the time to read this. If you have any queries or questions, please do not hesitate to speak to any member of the research team.

Laura Houghton
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St Helens Road
Ormskirk
Email: houghtol@edgehill.ac.uk
Tel: +44 (0) 1695 657344

Quantitative Research Consent Form

Study Title: Physical activity and family life: a case study of Everton families

Please tick the box(es) if you agree with the following statement(s):

I have read and understood the Participant Information Sheet and have had the opportunity to ask questions about the study ☐

I agree to take part in this research project and agree for my data and the data of my children to be used for the purpose of this study ☐

I understand my participation is voluntary and I may withdraw at any time while you are involved and up to four weeks after without my rights being affected ☐

Name of participant (print name)……..

Name of children (print all names)……

……

Signature of participant……...

Date……

Interview Consent Form

Study Title: Physical activity and family life: a case study of Everton families

Please initial the box(es) if you agree with the statement(s):

I have read and understood the Participant Information Sheet and have had the opportunity to ask questions about the study ☐

I agree to take part in this research project and agree for my data to be used for the purpose of this study ☐

I agree for the interview to be audio recorded ☐

I understand my participation is voluntary and I may withdrawat any time while you are involved and up to four weeks after the interview without my rights being affected ☐

Name of participant (print name)……

Child(ren)'s name……

Signature of participant……..

Date……

Research Child Assent Form

Study Title: Physical activity and family life: a case study of Everton families

We want to tell you about a research project we are doing. A research project is a way to find out about something. We are trying to find out about how much sport and physical activity children living in Everton do. If you decide you want to take part, this is what will happen:

1) You and everyone else in your family will be asked to wear a special belt for 8 days (you can take this off when, washing/bathing or swimming but should wear it at all other times) this will measure how much sport and physical activity you do

2) You and your family will be given the chance to come along to fun sessions at Goodison Park where you will be able to play games and learn lots of fun things about being healthy.

Will anyone know if I take part?

We won't tell anyone that you took part in the project and when we have finished we will write a report about what we found. We won't use your name in the report and no one will know what you have said or done.

What if I do not want to do this?

You don't have to take part in this project. If you say yes now, but change your mind later, you can stop taking part. All you have to do is tell us.

If you want to take part, please sign or print your name below.

☐ Yes, I want to take part ☐ No, I don't want to take part

Your name	Your signature	Today's date
_____	_____	_____
Person obtaining Assent	Signature	Date
_____	_____	_____

Appendix VII: Phase 2 and 3 EMA questions/ WEMEBS questionnaire

EMA Questions

1) **Diet**

Have you had anything to eat or drink in the last 4 hours? (Please circle the correct response)

No *(**if no go straight to question 2)*
Yes (start at question a and tick all food types consumed)

a) Fast food – Have you eaten any of the following types of food in the last 4 hours?

- 'Whole' oven or ready meals ☐

Food consumed e.g. pizza or lasagne (please write) _____

Number consumed (please circle the correct response) 1, 2, 3, 4, 5, 6, 7, 8

- Meat pies or pastries ☐

Number consumed (please circle the correct response) 1, 2, 3, 4, 5, 6, 7, 8

- Beef or lamb burgers ☐

Number consumed (please circle the correct response) 1, 2, 3, 4, 5, 6, 7, 8

- Chicken/turkey nuggets/twislers or in batter/breadcrumbs e.g. chicken burger ☐

Number consumed (please circle the correct response) 1, 2, 3, 4, 5, 6, 7, 8

- Takeaway or fast food e.g. chippy or McDonalds ☐

Takeaway type e.g. Indian (please write) _____

Food consumed e.g. large big mac meal or chiken tikka masala (please write)

_____

Number consumed (please circle the correct response) 1, 2, 3, 4, 5, 6, 7, 8

- Chips or fried potatoes ☐

Number consumed (please circle the correct response) 1, 2, 3, 4, 5, 6, 7, 8

- White fish in batter or breadcrumbs (cooked in oven) e.g. fish fingers ☐

Number consumed (please circle the correct response) 1, 2, 3, 4, 5, 6, 7, 8

b) Fruit, veg and potatoes - Have you eaten any of the following types of food in the last 4 hours? (please tick the box if yes and circle the number)

1 portion of fruit (tinned / fresh) ☐	1, 2, 3, 4, 5, 6, 7, 8
1 glass of fruit juice (not cordial or squash) ☐	1, 2, 3, 4, 5, 6, 7, 8
1 portion of salad (not garnish added to sandwiches) ☐	1, 2, 3, 4, 5, 6, 7, 8
1 portion of vegetables (tinned / frozen / fresh but not potatoes) ☐	1, 2, 3, 4, 5, 6, 7, 8
1 portion (half a can) of beans or pulses like baked beans, chick peas or dahl ☐	1, 2, 3, 4, 5, 6, 7, 8

c) Cereal, bread and dairy - Have you eaten any of the following types of food in the last 4 hours? (please tick the box if yes and circle the number)

Sugar free/fibre rich breakfast cereal, like Weetabix, Fruit 'n Fibre, Porridge ☐	1, 2, 3, 4, 5, 6, 7, 8
Sugary breakfast cereals like Coco Pops, Frosties or Sugar Puffs ☐	1, 2, 3, 4, 5, 6, 7, 8
Breakfast bars ☐	1, 2, 3, 4, 5, 6, 7, 8

1 slice of Wholemeal bread or chapattis ☐	1, 2, 3, 4, 5, 6, 7, 8
White bread or chapattis ☐	1, 2, 3, 4, 5, 6, 7, 8
Cheese ☐	1, 2, 3, 4, 5, 6, 7, 8
1 yogurt ☐	1, 2, 3, 4, 5, 6, 7, 8
Whole Milk (not in tea or coffee) ☐	1, 2, 3, 4, 5, 6, 7, 8
Semi-skimmed milk (not in tea or coffee) ☐	1, 2, 3, 4, 5, 6, 7, 8
Skimmed milk (not in tea or coffee) ☐	1, 2, 3, 4, 5, 6, 7, 8

d) Snacks and drinks - Have you eaten any of the following types of food in the last 4 hours?

Packet of crisps/savoury snacks ☐	1, 2, 3, 4, 5, 6, 7, 8
Sweet biscuits ☐	1, 2, 3, 4, 5, 6, 7, 8
Cakes/portion of cake ☐	1, 2, 3, 4, 5, 6, 7, 8
Portion of chocolate/chocolate bar ☐	1, 2, 3, 4, 5, 6, 7, 8
Bag/portion of sweets ☐	1, 2, 3, 4, 5, 6, 7, 8
Scoop Ice cream/cream ☐	1, 2, 3, 4, 5, 6, 7, 8
Can/glass of energy drink e.g. red bull or monster ☐	1, 2, 3, 4, 5, 6, 7, 8
Can/glass of non-alcoholic fizzy drinks/pop (not sugar free or diet) ☐	1, 2, 3, 4, 5, 6, 7, 8

Can/glass of diet fizzy drinks e.g. diet coke or pepsi max ☐	1, 2, 3, 4, 5, 6, 7, 8
Can/glass of standard Cordial or 'squash' (not no added sugar) e.g. standard Vimto or Ribena ☐	1, 2, 3, 4, 5, 6, 7, 8
Can/glass of sugar free/no added sugar cordial or 'squash' ☐	1, 2, 3, 4, 5, 6, 7, 8
Glass/bottle of water ☐	1, 2, 3, 4, 5, 6, 7, 8
Cup/mug of tea ☐	1, 2, 3, 4, 5, 6, 7, 8
Cup/mug of coffee ☐	1, 2, 3, 4, 5, 6, 7, 8
Spoonful of sugar (added to drinks or cereal) ☐	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
Sweetener ☐	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20

e) Meat and fish - Have you eaten any of the following types of food in the last 4 hours?

Whole Meats:	
Beef - roasts, joints, mince or chops ☐	1, 2, 3, 4, 5, 6, 7, 8
Lamb – roasts, joints, mince or chops ☐	1, 2, 3, 4, 5, 6, 7, 8
Pork - roasts, joints, mince or chops ☐	1, 2, 3, 4, 5, 6, 7, 8
Chicken or turkey – steaks, roasts, joints, mince or portions (not in batter or breadcrumbs) ☐	1, 2, 3, 4, 5, 6, 7, 8

Processed meats/meat products:	
Sausage ☐	1, 2, 3, 4, 5, 6, 7, 8
Slice of bacon (1 slice) ☐	1, 2, 3, 4, 5, 6, 7, 8
Corned beef ☐	1, 2, 3, 4, 5, 6, 7, 8

Fish:	
White fish not in batter or breadcrumbs ☐	1, 2, 3, 4, 5, 6, 7, 8
Oily fish like herring, sardines, salmon, trout, mackerel, fresh (not tinned) tuna ☐	1, 2, 3, 4, 5, 6, 7, 8

2) Alcohol

Have you had an alcoholic drink within the last 4 hours? ? (Please circle the correct response)

No *(** if no go straight to section 3)*

Yes

***If yes only* –** Have you drunk any of the following alcoholic drinks in the last 4 hours?

Drink type	**Brand** *(please write in the box below e.g. fosters)*	**Number consumed** *(please circle)*
Half pints of beer, cider, larger, stout, shandy etc. ☐		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20

Pints of beer, cider, lager, stout, shandy etc. ☐		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
Small bottles of beer (300ml) ☐		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
Bottles of alcopops e.g. WKD, Smirnoff Ice ☐		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
Single measures of spirits e.g. vodka, gin, rum, whisky ☐		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
Double measures of spirits e.g. vodka, gin, rum, whisky ☐		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
Small (125ml) sized glasses of wine or champagne ☐		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
Medium (175ml) sized glasses of wine or champagne ☐		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
Large (250ml) sized glasses of wine or champagne ☐		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
Single glasses of fortified wine, sherry, martini, port etc. ☐		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
Shots of alcohol ☐		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20

3) Smoking

Have you smoked (including e-cigarettes or cannabis) within the last 4 hours? (please circle)

No *(**if no go straight to question 4)*

Yes

If yes only - Have you smoked any of the following in the last 4 hours?

- Manufactured cigarettes ☐

Brand (please write)

_____

Number consumed (please circle the correct response) 1, 2, 3, 4, 5, 6, 7, 8

- Hand rolled cigarettes ☐

Brand (please write)

_____

Number consumed (please circle the correct response) 1, 2, 3, 4, 5, 6, 7, 8

- Pipefuls of tobacco ☐

Brand (please write)

_____

Number consumed (please circle the correct response) 1, 2, 3, 4, 5, 6, 7, 8

- Cannabis cigarettes ☐

Brand (please write)

_____

Number consumed (please circle the correct response) 1, 2, 3, 4, 5, 6, 7, 8

- Electronic cigarettes ☐

Brand (please write)

_____

Strength (please write)

_____

Number consumed (please circle the correct response) 1, 2, 3, 4, 5, 6, 7, 8

WEMWBS Questionnaire

The Warwick–Edinburgh Mental Well-being Scale (WEMWBS)

Below are some statements about feelings and thoughts.

Please tick the box that best describes your experience of each over the last 2 weeks

STATEMENTS	None of the time	Rarely	Some of the time	Often	All of the time
I've been feeling optimistic about the future	1	2	3	4	5
I've been feeling useful	1	2	3	4	5
I've been feeling relaxed	1	2	3	4	5
I've been feeling interested in other people	1	2	3	4	5
I've had energy to spare	1	2	3	4	5
I've been dealing with problems well	1	2	3	4	5
I've been thinking clearly	1	2	3	4	5
I've been feeling good about myself	1	2	3	4	5
I've been feeling close to other people	1	2	3	4	5
I've been feeling confident	1	2	3	4	5
I've been able to make up my own mind about things	1	2	3	4	5
I've been feeling loved	1	2	3	4	5
I've been interested in new things	1	2	3	4	5
I've been feeling cheerful	1	2	3	4	5

Warwick–Edinburgh Mental Well-being Scale (WEMWBS)

Appendix VIII: Phase 2 semi-structured interview/focus group guides

Mid interview family focus group guide

Introduction

As you both know I am going to be talking to you about your experiences with The PFP so far including what you think of the project in general and how you found the research (wearing the belts and completing the surveys)

- So just to start off do you want to all say your names for the tape and tell me how old you are (children only)

Now I've got a very special job for you (child). I'm going to give you this big piece of paper and some pencils, and I want you to draw what you think of The PFP and the sessions you've been coming to at Everton with your Mum and then I am going to ask you about what you've drawn in a few minutes once I've had a bit of a chat with your Mum.

- And while **** is doing that, **** can you talk me through your early experiences with the project, so how did you first hear about it and why did you decide to come along to the fun day in the first place?

- So then after you attended the fun day, what happened next?

    - *Why did you decide you wanted to take part?*
    - *What did you expect from the project?*

Engagement and attendance

- So you have attended **** sessions as a family so far. How would you describe your engagement so far?

- So you have regularly been attending ******** sessions Why did you decide to attend these particular sessions?

- You also attended the *******, why did you come along to this one?

- And you've not been attending ******** can you talk me through why you decided against these particular sessions?
  - Is there anything else we could have done to help you attend any of the sessions?

Session feedback

- How have you found the sessions you have attended so far?

- And what about you (child)? So, do you want to tell me about the picture you've drawn there……. (Additional prompts as appropriate). Now this is your opinion so try and answer without your Mum's help and I will ask her what she thinks in a minute.

Now, do you want to draw me one last picture as your last one was so good? This time I want to you think about when we asked you to wear your belt and draw me a picture about how you felt about this or why you didn't choose to wear it. I'll ask you some questions in a few minutes.

- How does the project and the sessions you have attended compare to your expectations?

- Is there anything you would change about the project and/or sessions?
  - What about the session timings and days?
  - What about the session content?
  - What about the organisation of the sessions?

- Are there any other sessions that you would have liked us to have included?

- Would you recommend the project to anyone else e.g. friends or family?
  - Why/why not?

- What support, if any, would you need to keep attending the sessions if we were able to extend the project outside of the 12 weeks?

- Who else would you like to see leading the sessions?
    - Why?

Research

Now I'm going to finish off by asking you some questions about when you wore your belts/answered the questions a few weeks ago now.

- So, (child) first of all do you want to tell me about the picture you've drawn there……. (Additional prompts as appropriate).

- Louise have you got anything to add there about *****'s experience with the belt or why you think she choose not to wear it?
    - How did you personally find wearing the belts?
    - Did you take yours off at all? Why/why not?

- What about completing your belt record?
    - When did you generally complete these?

- How did you find completing the questions?
    - Why did you choose to complete the questions using the printed forms?
    - Was it easy to follow?

- Would you say that the week that you took part in the research was fairly typical of normal:

1) Weekdays for you and your family (before you started the sessions)?

– Why/why not?

2) Weekend days for you and your family (before you started the sessions)?

– Why/why not?

Day-by-day physical activity

Use day by day graph printouts as prompts.

- For any of the 8 days you were wearing the belts can you clearly remember any activities that you did/took part in?
    - When was this?
    - Who were you with?

- Where were you?

- Out of the 8 days that you were wearing the belt, what day if any would you say you were most active? (ADD IN DETAIL)
  - Why was this?
  - What did you do?
  - Who were you with?
  - Where were you?

- Out of the 8 days that you were wearing the belt, what day if any would you say you were the least active? (ADD IN DETAIL)
  - Why was this?
  - What did you do?
  - Who were you with?
  - Where were you?

END OF INTERVIEW

Post intervention interview guide

So as you know I am going to be talking to you today about The PFP and the impact that attending the sessions has had on you/your family. I will also be you about your experience of the research (wearing your belts and completing the questions).

Session impact

Generic

- What did you hope to achieve by attending the sessions?

    - How do you think this has gone?
    - Is there anything else that could be done in order to help you achieve this?

Physical activity

- Do you think the project so far has had an impact on your physical activity?
    - Why/why not?
    - What types of physical activity in particular e.g. planned exercise, walking etc.

- How (if at all) do you think your motivations and actions to physical activity and exercise changed over the course of the 12 week programme? – Why?

- What about for your children/other members of your family?

- If there has been a change in PA how confident are you that you are able to maintain this?

Diet

- Do you think the project so far has had an impact on your diet/diet choices?
    - Why/why not?
    - In what way or can you give me an example here?

- How (if at all) do you think your motivations and actions to what you eat and your diet changed over the course of the 12 week programme? – Why?
- What about your children's/other members of your families' diets?

- If there has been a change how confident are you that you will be able to maintain this?

Mental/social health

- Do you think the project so far has had an impact on your mental health or how you are feeling?
  - Why/why not?

- What about for your children/other members of your family?

SHOW OVERALL SCORES (WEMWBS) PRE & MID

- Why do you think this change occurred/no change occurred?

- And where would you say you are at now? Has anything changed from mid to post?

SHOW POST SCORE

- Why do you think this change has occurred/why no change occurred?
- What do you think will happen with this now the project has finished?

Alcohol

- Over the last 12 weeks what would you say has happened with your alcohol consumption?

  - If positive change – why? & how confident are you that you would be able to maintain this change?
  - If no change do you think the project was more limited in its ability to reduce or change your alcohol consumption?
  - Looking back would we be able to do anything else to change this?

- What about for other members of your family?

Smoking

- Over the last 12 weeks what would you say has happened with your smoking habits?

- If positive change – why? & how confident are you that you would be able to maintain this change?
- If no change do you think the project was more limited in its ability to reduce or change your alcohol consumption?
- Looking back would we be able to do anything else to change this?

Other

- Is there anything else you feel has changed for you/your family since attending the project?

- How would you say your relationships with your children and other family members have changed since attending the project?

- What about your relationships with the staff on the course?

Okay well as an outsider it seemed as though your relationships with the Everton staff and volunteers were really strong but you were less close with other external members of staff e.g. the cook and taste ladies, why do you think this was?

- What about your relationships with other people on the course?

  - Do you think these relationships are important and why?
  - Why do you think you became such good friends with these people?

- What do you want to achieve in the next 6 months in terms of your health, PA, smoking etc.?

- What about the next 12 months/where do you see yourself in 12 months' time?

- And finally if you were to create your own programme, using the activity cards can you talk me through what activities you would include and why? **TAKE PHOTO HERE**

- And can you put the activities that you have selected in order of importance and why? **TAKE PHOTO HERE**

Research – Belts

Now I am going to ask you some questions about the activities you took part in throughout the 8 days that you were wearing your belt.

- Can you talk me through the research you took part in and how you feel you engaged with this?
  - Why do you think you engaged so well with it despite it being so time consuming for you?

- In terms of your physical activity would you say that the week that you took part in the research was fairly typical of normal

3) Weekdays for you and your family (before you started the sessions)? – Why/why not?
4) Weekend days for you and your family (before you started the sessions)? – Why/why not?

- For any of the 8 days can you clearly remember any activities that you did/took part in? (GO THROUGH DAY BY DAY IF POSSIBLE)
  - When was this?
  - Who were you with?
  - Where were you?

- Out of the 8 days that you were wearing the belt, what day if any would you say you were most active? (ADD IN DETAIL)
  - Why was this?
  - What did you do?
  - Who were you with?
  - Where were you?

- Out of the 8 days that you were wearing the belt, what day if any would you say you were the least active? (ADD IN DETAIL)
  - Why was this?
  - What did you do?
  - Who were you with?
  - Where were you?

Research – Questions

In this last section I am going to ask you some questions about when you completed the questions

- In terms of what you ate, smoked and drank, would you say that the week that you took part in the research was fairly typical of normal

1) Weekdays for you and your family (before you started the sessions)?
   – Why/why not?
2) Weekend days for you and your family (before you started the sessions)?
   – Why/why not?

Appendix IX: Phase 2 semi-structured interview/focus group guides

6 month follow up – children's focus group guide

- *So everyone, just to start off I*'m *going to give you each a big piece of paper and some pencils, and I want you to draw what you think of The PFP and the sessions you came to at Everton with your Mum's, can you remember? And then in a few minutes we can have a chat about what you've all drawn.*

- Ask each child individual what their picture is of and what they've drawn and why?
- Can you remember what your favourite sessions were? Why did you like these ones so much?

- And for the next picture can you draw me a picture of what you have been doing since the sessions at Everton finished or anything you have been doing differently to be healthy?

- Ask each child individual what their picture is of and what they've drawn and why?

- Is there anything else you've done differently, what about the sorts of things you've been eating and drinking?

- Have you been doing any new activities? – Who have you been doing these activities with?

- What about how you feel now after the sessions at Everton, is that the same or different to how you felt before the same? – Why do you think you feel different/don't feel any different now?

6 month follow up interview guide

So it's now been 6 months since the regular sessions as part of The PFP finished, so today I just want to have a chat to you about how you are getting on and what you've been up to since the project started……

Generic

- Just to start off then, remind me why you signed up to the project in the first place or what you wanted to achieve by attending?
- How do you think this has gone?

- So what have you been up to since the project has finished?

- And why do you think a whole 6 months after the sessions finished you are still here, in contact with me (and involved with Everton in the Community sessions etc.?

- And do you remember last time I interviewed you and I asked you what you wanted to achieve in the last 6 months??? You said _____ so how have you got on with that?

-Why do you think you have managed/not managed to achieve that?

- You also talked about wanting to achieve _____ within 12 months (so by October) what do you think about that now?
- Do you have any other aims you would like to add to that at this point?

Physical activity

- 6 months on do you think the project so far has had an impact on your physical activity?
  - Why/why not?
  - What types of physical activity in particular e.g. planned exercise, walking etc.
  - When do you think this change took place?
- What about for your children/other members of your family?

- Last time I interviewed you, you said _____ and you were confident/not confident about maintaining that what do you think about that now?

  - Why do you think that has happened?

- What are your motivations and actions to physical activity and exercise like now the programme has finished?
  - Why?

Diet

- 6 months on do you think the project has had an impact on your diet/diet choices?
  - Why/why not?
  - In what way or can you give me an example here?
  - When do you think this change took place?

- What about for your children/other members of your family?

- Last time I interviewed you, you said _____ and you were confident/not confident about maintaining that what do you think about that now?

  - Why do you think that has happened?

- What are your motivations and actions to eating healthily like now the programme has finished?
  - Why?

Mental health

- 6 months on do you think the project so far has had an impact on your mental health or well-being so how you feel about yourself?

  - Why/why not?
  - In what way do you think your mental health has improved then?
  - When do you think this change took place?

- What about for your children/other members of your family?

- Last time I interviewed you, you said _____ and you were confident/not confident about maintaining that what do you think about that now?

    - Why do you think that has happened?

Alcohol

- Since the project has finished what would you say has happened with your alcohol consumption?

    - If positive change – why? & how confident are you that you would be able to maintain this change?
    - If no change do you think the project was more limited in its ability to reduce or change your alcohol consumption?
    - Looking back would we be able to do anything else to change this?

- Last time I interviewed you, you said _____ what do you think about that now?

Smoking

- Since the project has finished, what would you say has happened with your smoking habits?

    - If positive change – why? & how confident are you that you would be able to maintain this change?
    - If no change do you think the project was more limited in its ability to reduce or change your alcohol consumption?
    - Looking back would we be able to do anything else to change this?

- Last time I interviewed you, you said _____ what do you think about that now?

Other

- Last time I interviewed you, you also mentioned _____ is that something that is still the case?

- Is there anything else you feel has changed for you/your family in the last 6 months as a result of the time you spent on the project?
  - Why do you think this is the case?
  - When do you think this change took place?

- I also know that you became quite close to some of the other families on the project, are you still in touch with those people?

- Why/why not?
- Do you see them more or less now the project has finished?
- What about other people, perhaps that weren't on the course so other friends, family etc. do you see them the same/go out more, less or the same as you did before the project started?

12 month follow-up – children's focus group guide

1) *So everyone, just to start off I*'m *going to give you each a big piece of paper and some pencils, and I want you to draw me a picture of what you think the word 'health' means…….so what is your health?*

- So what would a person that is 'healthy' look like and do?
-

Ask each child individual what their picture is of and what they've drawn and why *if only mention physical health also prompt about social/mental health*

- Can you think of anyone who you think is 'healthy' – why are they healthy?
- What about someone who isn't very healthy – why are they not healthy?

2) *And for the next picture can you draw me a picture of what you have been doing in the last year, so since you came to the sessions on the Everton project or anything you have been doing differently to be healthy?*

Ask each child individual what their picture is of, what they've drawn and why?

- Is there anything else you've done differently, what about the sorts of things you've been eating and drinking?

- Why do you think you have been doing these new things? Why do you think you've not done anything differently?

- Have you been doing any new activities?
- Where have you been doing these new activities?
- Who have you been doing these activities with?
- Why do you think you have been doing these new things? Why do you think you've not been doing any new activities?

- What about how you feel now after the sessions at Everton, is that the same or different to how you felt before the project?
- Why do you think you feel different/don't feel any different now?
- Has how you feel about yourself changed at all?
- Do any of you think you learnt anything from coming to the sessions at Everton?

– What did you learn? (Health/activities/relationships)

– How and why?

12 month follow-up interview guide

So it's now been 12 months since the regular sessions as part of The PFP finished, so today I just want to have a chat to you about how you are getting on and what you've been up to since the project started……

Intro/generic

- Just to start off then, remind me why you signed up to the project in the first place or what you wanted to achieve by attending?
- How do you think this has gone?

- So what have you been up to since the project has finished?

- And why do you think a whole 12 months after the sessions finished you are still here, in contact with me (and involved with Everton in the Community sessions/volunteering etc.?

- And do you remember when I interviewed you after the sessions finished and I asked you what you wanted to achieve in the last 12 months??? You said _____ so how have you got on with that?

- Why do you think you have managed/not managed to achieve that?

Knowledge and understanding of health

- What do you understand by the word health?

- What do you think a healthy lifestyle is/involves?

- Given this how would you describe your lifestyle – do you think you are healthy/a healthy family?

- One of the things you mentioned in the last interview/last couple of interviews was that you'd learnt things about health from attending the project, do you still agree this is the case and if so, can you explain to me what you think you have learnt specifically?

- Why do you think the programme was successful in helping you learn things?
- What about for your children? Do you think they have learnt anything and why?

Physical activity

- 12 months on do you think the project so far has had an impact on your physical activity?
  - Why/why not?
  - What types of physical activity in particular e.g. planned exercise, walking etc.
  - When do you think this change took place?
- What about for your children/other members of your family?

- If I was to ask you to try and explain why you engage in sport or PA (either more if applicable or in general), what would you say?

- What about for your children?

- What are your motivations and actions to physical activity and exercise like now the programme has finished?
  - Why?

Diet

- 12 months on do you think the project has had an impact on your diet/diet choices?
  - Why/why not?
  - In what way or can you give me an example here?
  - When do you think this change took place?
- What about for your children/other members of your family?

If haven't previously mentioned…..

- Last time I interviewed you talked about eating more fruit and vegetables, what are your thoughts on that now?

- You also suggested that you were doing more home cooking and using the recipe books etc. from the programme, talk to me about that.
- What are your motivations and actions to eating healthily like now the programme has finished?

- Why?

Mental health

- 6 months on do you think the project so far has had an impact on your mental health or well-being so how you feel about yourself?

  - Why/why not?
  - In what way do you think your mental health has improved then?
  - When and how do you think this change took place?
- What about for your children/other members of your family?

- One thing that we talked about in the last interview and that I could also see happening while the sessions were taking place was that you had started to do things for yourself a bit more, and put yourself first. What would you say has happened with this change in the last 12 months?
  - Why do you think that is the case?

- You also talked about feeling more confident, first of all why do you think that change in your confidence took place in the first place?
  - Is this something that is still the case?
  - Why do you think that is?
- What about for your children? Do you think the project impacted on their confidence at all?
  - How
  - Why?

Alcohol

- Since the project has finished what would you say has happened with your alcohol consumption?
  - Why do you think this is the case?

Smoking

- Since the project has finished, what would you say has happened with your smoking habits?
  - Why do you think this is the case?

Other

- Last time I interviewed you, you also mentioned _____ is that something that is still the case?
- Is there anything else you feel has changed for you/your family in the last 6 months as a result of the time you spent on the project?
  - Why do you think this is the case?
  - When do you think this change took place?

*** prompt about improvements in relationships within their family***

- I also know that you became quite close to some of the other families on the project, are you still in touch with those people?

  - Why/why not?
  - Do you see them more or less now the project has finished?
  - What about other people, perhaps that weren't on the course so other friends, family etc. do you see them the same/go out more, less or the same as you did before the project started?

Research

Now I am going to ask you some questions about the activities you took part in throughout the 8 days that you were wearing your belt and completing the surveys.

- Can you talk me through the research you took part in and how you feel you engaged with this?
  - Why do you think you engaged so well with it despite it being so time consuming for you?
- In terms of your physical activity would you say that the week that you took part in the research was fairly typical of normal
  - Weekdays for you and your family?

  – Why/why not?
  - Weekend days for you and your family?

  – Why/why not?
- In terms of what you ate, smoked and drank, would you say that the week that you took part in the research was fairly typical of normal
  - Weekdays for you and your family?

  – Why/why not?

3) Weekend days for you and your family?

   – Why/why not?